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TOWARDS AN UNDERSTANDING
OF THE ROLE
THE CULTURE OF DESIGNERS
CAN PLAY IN ORGANISATIONS

KAMIL MICHLEWSKI, MA, M.ENG.

PH.D.

MARCH 2006

NORTHUMBRIA UNIVERSITY

THESIS DECLARATION

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TOWARDS AN UNDERSTANDING OF THE ROLE THE CULTURE OF DESIGNERS CAN PLAY IN ORGANISATIONS

Kamil Michlewski, MA, M.Eng.

A thesis submitted in partial fulfilment
of the requirements of the
University of Northumbria at Newcastle
for the degree of
Doctor of Philosophy

Research undertaken in the School of Design
and in collaboration with Saïd Business School, University of Oxford

March 2006

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ABSTRACT

This thesis contributes to the debate about the role of design and designers in a modern organisation. It aims to engage in academic dialogue through an exploration of the way designers perceive themselves and their methods (and also how they are being perceived); providing an outline of their professional culture and its interactions in an organisation. Its rationale is based on the assumption that various occupational and professional cultures can have significant influence on the way organisations are run. Thus, by examining the dimensions and sense-making within the professional culture of designers, this PhD aims to establish the analytical grounds for understanding the role design and designers in an organisational setting.

By conducting a number of in-depth interviews with general managers, senior designers, management consultants and design managers from IDEO, Wolff Olins, Nissan Design and Philips Design this thesis looks at constructs attributed to designers that emerge at the core of their culture. Grounded theory methodology helped to establish a picture of the cultural arrangements in design-intensive organisations. *'Consolidating multidimensional meanings', 'Creating, bringing to life', 'Embracing discontinuity and openendedness', 'Embracing personal and commercial empathy', 'Engaging polysensorial aesthetics'*, are the five theoretical categories that have been recognised as important to describing designers' professional culture. The analysis suggests that designers, by focusing on *adding fundamental value through unconfined exploration* can play the part of *'epistemological change agents'* in an organisation.

Additionally, the thesis develops a model of design's influence on organisations. According to this model there are three 'channels' through which design affects organisations: (i) *frameworks* such as ontologies, epistemologies, theories, methods, tools, techniques etc., (ii) *outcomes* including physical artefacts, environments, brands and experiences, (iii) *designers* and their professional culture with certain values, assumptions, skills, preferences, behaviours etc. Designers, as a professional group, might have a more or less active roles within those groups of influences, modifying them in accordance with their culture.

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PREFACE

This research was sparked by an unexpected exposure to an environment consisting almost entirely of present and future professional designers. Having gone through five years of postgraduate management education and having experienced organisational practice, I found myself surrounded by designers whilst working in the Centre for Design Research in the School of Design at Northumbria University in Newcastle. The initial experience left me somewhat bewildered and puzzled with respect to the nature and the character of the work which was being undertaken there. I became particularly attentive to issues such as the approach to problem solving or the highly visual and tactile nature of the interaction displayed by designers. The situation presented itself to me as very different to what I had come to consider as ‘normal’ behaviour in a business environment. Out of this observation grew a conviction that such an ‘alien’ environment, where people work on creating products and services, which are then marketed by companies, could present a fertile ground for a PhD study. I wanted to satisfy my deep curiosity, stemming from the cultural dissonance I experienced, by exploring issues with regard to design and designers. I was particularly drawn to the topic, which at that time I defined as ‘influence of design and designers in organisations’. Not knowing what I would find and whether it would yield any meaningful results I embarked on a PhD journey driven simply by personal curiosity and what some people call ‘research hunch’. Having established that design with its methodologies, philosophies and tools is gaining recognition in organisational research and that professional cultures have the capacity to impact on organisations, in the course of the study I decided to pursue two main research goals:

- To explore the nature of the professional design culture through the lenses of design-intensive organisations.
- To investigate what can be said about its place and interactions in an organisational domain.

The results of this endeavour are presented in this study and are my contribution to the academic debate. I sincerely hope that you will have as much pleasure reading this *thesis* as I had researching it.

ACKNOWLEDGEMENTS

I especially would like to thank Professor James More, the Dean of the School of Design at Northumbria University, for introducing me to the world of design and design professionals. His continual inspiration, guidance and extraordinary patience enabled me to purposefully engage with the culture I knew virtually nothing about.

My thanks also go to Professor Robert Young, Associate Dean for Research and Consultancy for the School of Design, Northumbria University. Dr. Young, as my second supervisor from the field of design, not only kept a watchful eye on the academic conduct of my PhD, but was also instrumental to securing the resources essential to the project.

In addition, I wish to extend my gratitude to Professor Rafael Ramírez of Saïd Business School, University of Oxford, for his enormous support during the process. His careful critique and guidance helped me to focus my research and significantly improve my scholarly skills.

I would also like to thank Grant Carruthers and his business partner Yves Broers from 'Bright', for providing the graphical side of the thesis. I am also grateful to Benedict Singleton who painstakingly attended to proof reading the entire script.

Furthermore, I wish to show my appreciation to designers, managers and consultants from IDEO, Nissan Design, Philips Design and Wolff Olins for their crucial contribution at the data gathering stage of the project.

Malgorzata Wamil was a special person who, during the final year, gave me the strength and motivation to work even harder towards completion.

Last but not least, I would like to express my warmest gratitude to my parents who, in their love and wisdom equipped me with the necessary mind-set, determination and resources to successfully reach a point, at which I was ready to undertake this demanding project.

AUTHOR'S DECLARATION

This work has not previously been accepted in substance for any other degree and is not being concurrently submitted in candidature for any other degree.

The thesis is the result of author's own research and investigations, except where otherwise stated. The use of other sources is acknowledged and identified with explicit references. Full list of references is appended.

Signed:

Kamil Michlewski

March 2006

1

Introduction

Chapter One - Introduction

Properly integrating design into a complex organization is one of the important challenges faced by management today.

(Buchanan, 2004: 55)

1.1 General field of study – design and designers in organisations

The avenues of addressing *design's* impact on organisations are almost as plentiful as there are meanings of the word 'design'. The literature from both the young design management and the mainstream management fields has focussed on a number of issues.

It has, for example, been shown that there is a positive, financial consequence of investing in industrial design (Roy and Potter, 1993; Rich, 2004; Hertenstein, Platt *et al.*, 2005). Other authors have demonstrated the importance of design on the strategic level (Kotler and Rath, 1984; Lorenz, 1986; Dumas and Mintzberg, 1989; Lorenz, 1990; Olson, Cooper *et al.*, 1998; Bruce and Bessant, 2002; Johansson and Svengren, 2002; Broja de Mozota, 2003; Lojacono and Zaccai, 2004; Ravasi and Lojacono, 2005). In addition, links between design and innovativeness have been highlighted and explored (Thackara, 1997; Lester, Piore *et al.*, 1998; Bruce and Harun, 2001; Myerson, 2001; Gaynor, 2002; Squires and Byrne, 2002; Nussbaum, 2004). Scholars have highlighted the political, ethical and social implications of design which have been related to socially responsible management practices and national competitiveness (Papanek, 1971; Cooper and Press, 1995; Margolin and Buchanan, 1995; Papanek, 1995; Press and Cooper, 2003). There have also been some early attempts at describing the connections between design and organisational cultures (Bertola and Teixeira, 2003; Lockwood, 2004).

Furthermore, design has started to attract the attention of mainstream scholarship. As part of the debate about the ‘relevance gap’ and the ‘utilisation problem’ in management academia (see Tranfield and Starkey, 1998; Huff, 2000; Starkey and Madan, 2001; Aram and Salipante Jr, 2003) authors such as Romme and Van Aken, have suggested that the ‘problems’ could be aided by the pragmatic approach represented in the transdisciplinary, problem-oriented, integrative epistemology of the ‘design mode’ (Romme, 2003a; Van Aken, 2004).

Finally, a publication by a group of established management scholars that took part in a design-led architectural project with Frank Gehry might signal the beginning of a broader discussion around ‘managing as designing’ (Boland Jr. and Collopy, 2004b; 2004a). In this attempt to engage with the topic of design on a more profound level, we find, for example, the proposition of a new way of looking at organisational design (Weick, 2004), or assembling action nets based on the design paradigm (Czarniawska, 2004). It can be said that the debate is not yet in full swing but with the launch of the special issues on design by Organization Science (end of 2005) and Organization Studies (2008) it is bound to gain some extra momentum.

Judging from these examples, it appears that since the publication of the seminal text *‘The Sciences of the Artificial’* by Herbert Simon in 1969, there has never been more interest and attention devoted to the subject of design in and around management. Simon’s assertions that ‘Everyone designs who devises courses of action aimed at changing existing situations into preferred ones [...]’ and that ‘Schools of engineering, as well as schools of architecture, business, education, law and medicine, are all centrally concerned with the process of design’ (Simon, 1996: 111), are being considered with a robust intensity.

In addition, apart from the debate about the usefulness and the appropriateness of design-based approaches to the mainstream organisational research and education, there exists a growing stream of evidence from the design management authors and institutions such as Design Council (UK) and Design Management Institute (US), which suggests that design can have significant, practical implications for innovative organisations.

1.2 Focal field of study – professional designers and their culture

As stated above, there is a growing body of literature which suggests that design as a process, strategy and philosophy has something significant to offer in the field of organisational studies. At the same time, however, there is a limited understanding with regards to professional designers and the nature of their cultural contribution.

It needs to be said that the design management discipline is still relatively young and rather amorphous (Press and Cooper, 2003: 182). Authors who have been taking the field forward such as Lorenz (1986), Gorb (1986), Oakley (1990), Olins (1995), Thackara (1997), Bruce and Bessant (2002), Cooper and Press (1995), Myerson (2001), and Broja de Mozota (2003) have significantly contributed to the expansion of its scholarship. Their contribution needs to be appreciated as a crucially important stage of mapping out the conceptual territory where others will be able to find their way. Despite those significant efforts, however, very little evidence of critical debate exists in the field. The arguments of the authors often focus on advocating the value of design to the reader. As a consequence, there is a noticeable tendency to avoid conflict, confrontation and pronounced critique. One of the reasons for this situation appears to be the fact that the field is not yet mature enough to take up a more probing line.

When it comes to studying designers as a professional group in organisations, one needs to refer to the closest available literature which talks about the skills, traits, characteristics and ‘intelligence’ of individual designers. The examples of existing research in this instance include: Cross (1995; 1999), who interviewed ‘exceptional designers’ or ‘good designers’ and came up with a list of characteristics of what he calls ‘design thinking’ or ‘design intelligence’. The list included items such as abductive, rhetorical, reflective, ambiguous etc.; Lawson (1979) conducted an experiment in which he examined the way students of engineering, architecture and science dealt with an abstracted design problem. He was especially interested in investigating different problem-solving strategies; Newland, Powell and Creed (1987) engaged in the work around designers’ cognitive styles initiated by Cross and Nathenson (1981a). They proceeded by taking up a study of the learning styles

among architects. The authors used Kolb's (1975; 1985) learning styles as the foundation of their study. Newland *et al.* (1987) distinguished four types of designers in accordance to their preferred learning style: *common-sense, dynamic, contemplative and zealous*.

Durling, Cross and Johnson (Durling, Cross *et al.*, 1996b; 1996a) conducted a study in which they explored cognitive styles among art-based design students. The authors used Myers-Briggs Type Indicator, a tool extensively tested in the field of psychology of personality. They concluded that there is a match between students' preferred way of learning design and the preferred way of teaching it in the UK design educational system.

Promising, but methodologically opaque, lists of characteristics and descriptions on the subject of professional designers are given by some of the members of the design management community. Here we find the following publications: Lorenz (1986) identified a number of skills of designers in the organisational context. In his understanding, designer's most fundamental skills are *synthesis* and *visualisation*; Gorb (1986) defined designers as people who work with artefacts, have special skills relating to manipulating artefacts and operate under a distinct methodology; Walker (1990b) juxtaposed designers with managers by presenting a list of the corresponding characteristics. As aspects outlining designers' culture and behaviour he lists *optimism, innovativeness, diversity* and *experimentation*. Apart from his rather clichéd descriptions he gives no indications about how he reached the conclusions; Broja de Mozota (2003) builds a set of in-house design competencies on Cooper and Press's (1995) classification into: *design, relational qualities, business sense, project management, and the capacity to generate a perspective*, Press and Cooper (2003) split the 'attributes' of a professional designer into two categories (a) skills that relate to the *act* of designing including *manipulation* of: colour, texture, shape, etc.; and *visualisation* of concepts using context-specific materials and media (b) skills/attributes which relate to the *process* of designing: research, question, integrate, isolate; be intuitive, sensitive, holistic, etc. (*ibid.*: 179).

When observations are being made with regards to the distinctive values of professional designers the results appear to be superficial and vague. For example, in a study commissioned by the Design Council Bruce and Harun (2001) report designers' strategic and tacit skills, such as creative thinking, decision making, risk taking, user focus and originality (in Bruce and Bessant, 2002: 48). In the same design management textbook (*ibid.*), under the heading of: 'What do design specialists bring to the party?' we find only one page of timid explanation.

A common feature of the abovementioned studies is that the authors primarily talk about preferred or idealised sets of skills, attributes, intelligences etc. Even though they work under the sometimes tacit assumption that those skills are related to a particular group of people, they rarely speak of their collective values, preferences or behaviours. The level at which most of them operate is the individual designer. There is virtually no analysis present that specifically relates to the professional culture level.

Regrettably, the common denominator of almost all of those studies is the lack of specificity or disclosure of the research method (except for the psychologically-led studies). It is therefore extremely difficult to draw any firm conclusions upon which a study at a PhD level might trustfully depend. Therefore, in the absence of literature specifically relating to the professional design culture, those findings/intuitive signals need to be taken into account but with a great deal of caution. Nevertheless, the information already in existence must provide, at least partially, much needed reference points.

1.3 Professional/occupational cultures and their significance

There are scholars who believe that occupational and professional cultures¹ are of particular importance among the variety of subcultures in organisations. Van Maanen and Barley (1984), for example, position occupations/professions as the most distinctive subcultures in organisational life. This assertion is supported by Bloor and Dawson (1994) who note that: 'Professional subcultures are often stronger than other groupings within an organization in the sense of having extra-organizational associations and peers to aid them in shaping new cultures and codes of conduct, and resisting the imposition of other cultural values and practices' (*ibid*: 286). Schein (1996), despite his longstanding advocacy for cohesive and strong cultures, has since acknowledged the importance of differences between subcultures within an organisation.

The fact that a profession or an occupation is not limited to the framework of a given organisation, or even a given industry or nation, means its culture exists across those boundaries (Becher, 1981). Morgan (1986) supports this view and argues that society is fragmented and differentiated by patterns of belief and practice, based on occupational cultures. Trice and Beyer (1991) empathetically claim that well-established occupations have cultures just as organisations do.

Once formed, professional groups establish different knowledge bases and different ways of constructing meaningful interpretations of persons, events and objects commonly encountered in their professional world (Van Maanen and Barley, 1984). They exist within a historical context of their specific environments, which in conjunction with societal culture, shape their working practices, beliefs, values and professional codes (Bloor and Dawson, 1994). Bloor and Dawson (*ibid*: 281) state: 'The types of organization and the place of professionals within them are

¹ It is important to mention that because essentially professions are mature occupations, on the conceptual/analytical level terms 'occupational' and 'professional cultures' are being used interchangeably. This thesis concentrates on the concept of 'professional culture' but sometimes refers to it as 'occupational culture'. The reason is the overwhelming similarity of these terms (see: Larson, M. S. (1977) *The Rise of Professionalism: A Sociological Analysis*. London: University of California Press, Trice, H. and Beyer, J. (1991) *The Cultures of Work Organizations*. Englewood Cliffs: Prentice-Hall, Bloor, G. and Dawson, P. (1994) 'Understanding Professional Culture in Organizational Context', *Organization Studies*, 15 (2), pp. 275-295.)

major determinants of the effect of organizational culture and professionalism upon each other.’

1.4 Theoretical frameworks for studying professional cultures

Since Bloor and Dawson (1994) called for more research on professional and occupational subcultures there has been some progress made (see for example: Hansen, 1995; Thorne, 2000; Von Meier, 2000; Watson, 2001; Hodgson, 2002). Despite this fact, there exists no clearly identifiable and broadly accepted framework for studying those cultures.

In a publication by Hofstede (2001) we find a reflection that suggests a lack of established terms of reference for analysing occupational cultures: ‘Unlike for national and organizational cultures, I know of no broad cross-occupational study that allows us to identify dimensions of occupational cultures’ (*ibid.*:414). He then goes on to stress that neither the five national culture dimensions, nor the six organisational culture dimensions, will automatically apply to the subcultural level.

In a similar tone, Sackman (1991) indicated that different dimensions may be suitable for different purposes. She suggested that cultural dimensions should not be set *a priori* but should emerge empirically under theoretical guidance (*ibid.*).

Due to the lack of firmly established parameters for studying professional cultures, organisational culture is offered as an analytical starting point and anchoring analogy. Additionally, the fact that there is no established theory with which to work leads this study to employ a more open and experimental methodological stance. Because access to a professional culture can be obtained through an organisation, this *thesis* establishes conceptual links with issues concerning organisational cultures.

1.5 Link between professional and organisational cultures

For some scholars there is little doubt that organisational cultures shape what organisations are and are instrumental to organisational success (Barney, 1986). Less certain is the definition of the term itself. Even in anthropology, it has no broadly agreed meaning (Borkowsky, 1994). In fact, for a significant period of time ‘culture’ was primarily understood as a ‘certain way of life’ (Czarniawska-Joerges, 1991: 288). The subsequent attempts at researching the topic resulted in the plethora of inconsistent and misleading interpretations, which themselves became one of the streams of the organisational debate (Frost, Moore *et al.*, 1991; Martin, 1992; Alvesson, 1993a; 2002). In this scholarly conversation a number of arguments have been raised. For example: Is culture homogeneous? (Deal and Kennedy, 1982; Peters and Waterman, 1982; Schein, 1992); Is Culture heterogeneous? (Meyerson and Martin, 1987; Meyerson, 1990); Is culture composed of subcultures? (Jamison, 1985; Sackmann, 1992). Within this context, there seems to be a basic consensus that organisational culture is holistic, socially constructed and difficult to change (Bloor and Dawson, 1994).

Three of the prominent, early examples of framing the term include: the way we do things around there (Peters and Waterman, 1982); set of shared, basic assumptions which the develop whilst dealing with problem of external adaptation and internal integration (Schein, 1992); and web of shared perceptions, practices and values (Hofstede, Neuijen *et al.*, 1990).

A recent development in this field appears to bring much needed clarity to the otherwise clouded picture of the many approaches adopted. Martin (1992; 2002) offers a map of the organisational culture research terrain. She suggests categorising all studies into three overarching groups: *integrative perspective*, *differentiation perspective* and *fragmentation perspective*. Briefly, integrative perspective sees culture as homogeneous where ‘sharedness’ of cultural constructs is highlighted to support the existence of non-ambiguous, ‘mutually consistent interpretations’ (*ibid.*:94). Differentiation perspective focuses on the ‘subcultural’ level of analysis. Here the subculture is ‘clear’ and the ambiguity resides elsewhere. Finally, fragmentation

perspective elevates the importance of nuances and inconsistencies and places them at the heart of culture. In this case ‘consensus is transient and issue specific’ (*op. cit.*).

From the point of view of this study, a natural interface with the organisational culture frameworks is the differentiation perspective. Because the centre of attention has been identified on professional/occupational culture level, the above approach provides suitable parameters of unity on the subcultural dimension.

In addition, this perspective becomes particularly suited to studying professional culture of designers when a concept of cultural nexus is introduced. A nexus is the point of interaction of a variety of influences, those from outside as well as from the inside (Martin, 1992: 112-114). The ‘nexus model’ suggests that what some organisations perceive as unique to their cultures is, in fact, non-unique and often attached to professional cultures which span organisations (Bockus, 1983; Gregory, 1983; Martin, Anterasian *et al.*, 1988). In essence it leads towards discussing ‘cultures in organisations’ and not ‘organisational cultures’.

This observation gives additional support to the notion that following a group of professionals in companies where they are a clear and visible presence, might provide a good basis for sifting out the non-unique (profession-specific) from the unique (organisation-specific).

Subsequent logic suggests that, if one takes an organisation where designers have considerable say, in other words, their culture ‘fills’ a lot of cultural space, the likelihood of uncovering professional-specific constructs should be greater than if they were a minority. Therefore, design-intensive organisations are taken as ‘repositories’ of what might be identified as professional design culture.

1.6 Statement of the problem

Following on from the above argument we can, on the one hand, be reasonably confident that design makes an important contribution to organisations on many different levels. To a certain extent, we are also able to identify what skills and ‘designerly intelligences’ of exceptional or idealised designers are. On the other hand, though, we do not know what their values and ways of doing things are and what the nature of their contribution on the professional culture level is.

Taking into account the importance of professional cultures one might expect that such an analysis could help provide some answers as to how designers, on this level, contribute to the organisational landscape.

It is, therefore, anticipated that through the analysis of the position and nature of the ‘design culture’ embedded in design-intensive organisations (namely the ones which are saturated with professional designers who form the dominant organisational voice), one can unlock some of the questions concerning the way design and designers (and by inference the values they share and epistemologies they represent) shape their professional culture.

Until present, there has been no attempt made to empirically and qualitatively examine the nature of the cultural contribution made by designers across design-intensive organisations. In the light of the perceived importance of the philosophies, methodologies, tools and techniques associated with and advocated by the design approach, this thesis raises a question about the character of the professional culture shaped by designers. It takes up the challenge of expanding on what Boland and Collopy call ‘design attitude’ (Boland Jr. and Collopy, 2004a). Where these authors summon managers to adopt ‘design attitude’ as a means of creating products, services and processes that are both ‘profitable and humanly satisfying’ (*ibid.*: 3), this PhD aims to ask in-depth questions about the nature of this attitude. In other words, it attempts to explore and, at least partially, untangle the issues regarding design

culture and its interactions within an organisation. Consequently, the following research intentions are put forward:

- To explore the nature of the professional design culture through the lenses of design-intensive organisations.
- To investigate what can be said about its place and interactions in an organisational domain.

1.7 Distinctiveness of the research approach

In order to establish the distinctiveness of the cultural approach and studying of professional design culture, an extensive literature search has been carried out. It examined, among other sources, all PhD theses published in Britain in the last 50 years, as well as peer-reviewed articles in professional journals. It was based on an advanced, Boolean, thesaurus, keyword search. Terms which have been used included: *cultural schemata, culture, values, customs, traits, characteristics, ideology, beliefs, assumptions, habits, qualities, virtues, rituals, scripts, stories; art, design, architecture, engineering, craft; occupation, profession, work, trade, field, business, career, enterprise, community*. The results, obtained via this search, which provided the closest matches, are summarised below.

Yair (2001), in his Ph.D. thesis, investigated the value of craft ‘knowledges’ in the context of the new product development (NPD) process (Yair, 2001). This study drew upon the theoretical framework provided by design management, cognitive psychology, communication in design, and craft and design epistemologies. The thesis reported that the manufacturers’ NPD activities were facilitated by the involvement of crafts practitioners, which resulted in significant intangible gains in addition to successful product outcomes.

The study by Whyte (1996) examined three propositions: (i) there are problems in the building design teams created by difficulties of communication between different professional disciplines, (ii) communication difficulties are primarily a function of cultural differences instilled by vocational education, and (iii) communication gaps require educational initiatives able to bridge cultural differences instilled by vocational

traditions in the educational process (Whyte, 1996). This thesis examined the nature of professional attitude of design team members towards other disciplines. The study found negative attitude between design and non-design colleagues in the construction industry. It also showed the deterioration of the attitude with time and completion of academic courses.

Root (2001) investigated the influence of professional and occupational cultures on project relationships mediated through standard forms and conditions of contract. Using Weber's concept of the 'ideal type', the thesis proposed that both the corporate/project roles of client, contractor and consultant and the professional disciplines of architect, engineer and quality surveyor, represented 'ideal types'. The propositions were examined by analysis 4 case studies of construction projects involving 42 semistructured interviews and a questionnaire with a sample size of 790 individuals selected from a range of occupational and corporate groups. The analysis focussed on correlating the 'ideal types' of the occupational images uncovered within the interviews with statistically different 'ideal types' obtained from the questionnaires (Root, 2001). The results that are relevant, indicate that: a) there exists a common culture for the construction industry, b) within this common construction culture it is possible to differentiate between occupational and corporate subcultures, and c) those cultures impact the way standard format forms and conditions of contract are perceived.

The research by Chandran (1988) attempted to provide a model curriculum for engineering design education. It was delivered by way of an analysis of the results of an engineering design education literature review, a survey of practising professional engineers and student engineers' perceptions of what constituted a professional engineer obtained through concept mapping exercises. The primary cognitive skills required in an engineering designer were found to be: core knowledge competence, problem solving, critical thinking, creativity, and engineering judgment (Chandran, 1988).

The absence of a thesis that specifically deals with either the issues of value systems of designers, dimensions of the professional culture of designers can be taken as a strong indication that the approach represented in this PhD research can be regarded as distinct.

1.8 Contribution to knowledge

This PhD aims to contribute to the knowledge pool which describes designers as a professional group. In particular, it looks at the constructs and themes that emerge at the heart of their professional culture. In addition, the thesis engages in the exploration of the relationships between this culture and its environment within organisations. The knowledge obtained in the process is not considered objective or devoid of value judgements. Rather, it should be seen as a piece of personal sense-making grounded in the tradition of close adherence to the chosen research method, transparency and epistemological reflexivity. The reader is encouraged to create their own constructs based on the appreciation of the findings and personal understanding.

1.9 Methodological considerations

One of the consequences of the lack of recognised and widely accepted methodologies for investigating professional cultures was an initial uncertainty and the absence of clearly identifiable reference points. In these circumstances it proved impossible to adopt one overarching methodological position at the outset and adhere to it throughout the entire research project. Consequently, the process of choosing the appropriate research strategy and method (Crotty, 1998) followed an evolutionary path. Instead of presenting to the reader only the final methodology, I have chosen to briefly outline the epistemological journey together with the intermediate stance. I believe this will contribute to more informed sense-making and interpretation of the findings on the part of the reader.

Due to my background and the way in which I was enculturated, the paradigm which the research unknowingly adopted from the outset was positivism. This fact only became transparent after substantial time spent reading relevant literature and immersion in a design environment. As a result of this approach, the early method focussed on extracting theoretically-derived design attributes and testing those against the perceptions of professional designers in the School of Design at

Northumbria University. In the course of this exercise, staff of the Newcastle Business School were involved as a control group, in effect a group against which the distinct attributes of the design culture would be validated. As data gathering tools, a quantitative questionnaire survey and group interviews were used (Miles and Huberman, 1994). This stage was based on the umbrella of the case study method (Yin, 1994; Gillham, 2000).

Despite the fact that the exercise was seen as a pilot, the feedback received from the participants, in conjunction with my own reflections, suggested a major re-think of the methodology was necessary. At this stage it became clear that the initial extensive literature search and identified categories provided very strong cognitive and conceptual anchors which were pushing the interpretations towards pre-defined understandings and were preventing a richer appreciation of the reality². This situation prompted an epistemological shift, whereby I made a choice not to succumb to the positivist paradigm, arguably dominant in management research, that focuses on existing definitions, is detached from the object of the study and alleges to be value-free (Easterby-Smith, Thorpe *et al.*, 1991; Crotty, 1998). Instead, I started to move closer towards subjectivist ontology (Morgan and Smircich, 1980) and phenomenology (Easterby-Smith *et al.*, 1991) with a much more reflective attitude (Johnson and Duberley, 2003)³.

In addition, a factor that has also played part in aligning the subsequent research more closely with social constructivism (Berger and Luckman, 1966) and qualitative methodology (Taylor and Bogdan, 1984), was the on-going debate about the management research methods in general (see: Tranfield and Starkey, 1998; Huff, 2000; Starkey and Madan, 2001; Hatchuel, 2005). This scholarly discussion was ignited by Gibbons *et al.* (1994) taxonomy of knowledge production systems which identified Mode I and Mode II types of research engagement. The former is

² For outcomes of this stage please refer to an article in Appendix A. The results obtained, although not used directly in the *thesis*, found their way through 'theoretical sensitivity' gained in the research process which informed the main analytical process.

³ One of the consequences of this stance is the use of 'my own voice' in the narration of this *thesis*. The 3rd person form 'the researcher' was considered but eventually abandoned in order to give more transparency and authenticity to the reflective process. If the reader is used to more detached and objective voice they are encouraged to see beyond the 'I' when they look for logic, reason and robustness the research.

described as predominantly theoretical, situated in academic institutions which also provide validity criteria and is bonded to a specific discipline. The latter is trans-disciplinary, does not distinguish between theory and application, and involves co-production of knowledge involving groups beyond academia (Tranfield and Starkey, 1998: 348). One of the voices in the debate calls for adopting design-based epistemology to move management closer to Mode II research (Romme, 2003a). The circularity of the argument, whereby design culture is being studied and the method by which it is investigated might be based on the 'design paradigm', meant that adopting an 'objectivist', detached and un-reflexive stance presented itself as unsustainable.

In the process of constructing a more appropriate methodology that would allow for in-depth exploration of the professional design culture, I became involved in a consultancy project with the DIEC (Design and Innovation Education Centre) consortium. Despite the fact that the assignment was not driven by the parameters of this thesis, and I had no involvement in the design of the exercise, the analytical process and findings contributed to my understanding of professional designers and their culture considerably. The project involved a number of designers from both academia and industry discussing in-depth the future of design education. In this context I was asked to analyse the results of those deliberations by identifying major themes (See article summary in Appendix C). This gave me an opportunity to test a research method which started to appear as a primary candidate to be employed for the main part of the study, namely grounded theory.

Eventually, after an extensive research and comparison between the likes of anthropology, ethnomethodology (Van Maanen, 1988), clinical studies (Schein, 1987), action research (Eden and Huxham, 1996), cooperative inquiry (Heron and Reason, 2001) and grounded theory (Glaser and Strauss, 1967), on the basis of factors such as (a) available time and resources, (b) external/internal call for intervention, (c) nature of the studied phenomena and (d) the character of the PhD study, I have decided to opt for grounded theory as the overarching research strategy.

With roots in symbolic interactionism (Goulding, 2002), which supports rich input such as discourse, actions, expressions and gestures, grounded theory matched the requirements of the situation under analysis. Originally developed by Glaser and Strauss (1967), the strategy follows an interpretative framework which concentrates on eliciting meaning from empirical data in post-positivism tradition (Guba and Lincoln, 1994). This methodology aims to support researchers in an attempt to ‘codify and publish their own method for generating theory’ (Glaser and Strauss, 1967: 8). The intention of this approach is to provide guidelines that support the highly personal, iterative procedure of constructing situated meaning. The researcher is encouraged to use his or her own ‘theoretical sensitivity’ (Glaser, 1978) and knowledge from his or her own area of expertise. The two fundamentals of grounded theory are ‘theoretical sampling’ and ‘constant comparison’. The former means that the data collection process is guided by the emerging theory; the latter signifies a method of interaction between data coding and analysis.

As the main tool for gathering primary data, grounded theory interviewing has been utilised (Goulding, 2002; Charmaz, 2003; Holstein and Gubrium, 2003). Instead of following the very formulaic process of Strauss and Corbin’s (1990) version of grounded theory, the research adhered more closely to the original approach which calls for ‘stimulating rather than freezing thinking’ (Glaser and Strauss, 1967: 9). The process of analysing and synthesising data took place simultaneously. Following the logic of the ‘theoretical saturation’, individuals have been questioned as the meaning became richer.

In order to summarise the research logic employed by this study, a list of premises, assumptions and arguments has been compiled below:

- Design is increasingly considered an important ingredient of an organisational and economic success
- There exists a body of evidence regarding designers’ skills and ways of thinking but the research on professional design culture, whereby designers are seen as a group, remains scarce

- Professional cultures span organisational cultures and can form powerful internal networks consolidating certain values and behaviours. Those may have substantial influence on organisational cultures which are considered vital to organisational integrity
- Probing design-intensive organisations – the ones where designers are a pronounced group – may provide evidence of the distinct constructs embedded in their professional culture
- This, in turn, may help unlock issues surrounding cultural effects of design and designers on the wider organisational landscape
- In order to assess this, an overarching methodological strategy of grounded theory is utilised. It offers an inductive approach which is a response to the lack of accepted reference points for studying professional and occupational cultures.

1.10 Limitations of the research

This thesis is exploratory in nature, due to the limited research into professional design culture and its impact on organisations. In addition, because the focal field of inquiry, namely design management, is a young and as yet poorly developed discipline, the thesis draws on other academic disciplines such as sociology and mainstream organisational sciences. As a result, a number of methodologically-based and self-imposed limitations are identified.

The study assumes that there exists a *professional design culture* as a heuristic, ideal-type sense-making device. This approach inherently seeks consensus within this organisational sub-culture. Being part of the differentiation perspective (Martin, 2002), the study assumes sub-cultural uniformity, which consciously neglects differences of opinion on a personal level. The thesis takes a pragmatic position that commonality on a professional level outweighs potential differences from the viewpoint of helping to understand social relationships involving designers. Subsequently, much less space is devoted to critical analysis of discrepancies

between individuals. As a result, the research does not differentiate on the subcultural level by examining distinct groups within the professional design culture.

Companies that took part in the study represent perhaps the most recognised group in the design consultancy industry. Those organisations, however, are not intended to be a representative sample of the entire sector. The intention of the research is to follow the theoretical sampling route of grounded theory and not to document case studies of individual companies. The common denominator in the choice of sites was the design-intensiveness, namely the anticipated high saturation of their cultures with professional designers. Therefore, extrapolating the results onto other environments needs to be done with caution as ensuring generalisability does not lie within the parameters of social constructivist research mode.

Even though the general stance of the thesis is not normative and the aim is to explore and not to advocate, the reader is advised to take into perspective my personal experiences as a participant observer amongst professional designers. During this time I have come to appreciate how some of the approaches recognise the positive potential of their culture in certain circumstances. This most likely has had an impact on the way in which I present my arguments.

Another limitation derives from the way the bulk of the data was gathered. This was done through self-reporting which might be questioned in terms of its accuracy. This has been partially off-set by personal observations during the three years I spent in an environment filled with designers and my interviews of non-designers. However, it may still, to a degree, reflect how designers want to be perceived, rather than who they actually are as a professional group.

The perceptions and subsequent descriptions of the professional design culture are built on top of my own values and assumptions. Those stem primarily from a management and organisation science discipline. The general picture, therefore, needs to be interpreted as coming not from a professional designer but somebody who has been socialised in a different environment.

1.11 Guide to the thesis

The thesis is structured in the following way (see also Figure 1.1 for graphical reference):

Chapter 2 introduces the concept of design in the light of the ‘professional project’. It defines what is meant by the term ‘professional designers’ and outlines the young design management field.

Chapter 3 describes what has been the predominant way of looking at designers, their skills and intelligence, in the literature. It reviews, analyses and re-categorises the findings from three identified schools of thought.

Chapter 4 discusses the connections between the concepts of professional and organisational cultures. It also provides a theoretical backdrop for analysing professional design culture across organisations.

Chapter 5 describes and justifies the development of the methodology for studying the professional design culture. The Chapter also engages in personal reflection on the research process and the epistemological shifts experienced.

Chapter 6 identifies the way in which data was gathered and analysed within the grounded theory approach.

Chapter 7 presents the results of the analytical-creative research process. The Chapter explores theoretical categories which describe the professional design culture and, in the spirit of grounded theory, links the findings back to the arguments from the existing literature.

Chapter 8 discusses the broader, organisational implications of the professional design culture. It proposes a model of design influence on organisations and the role of designers in it.

Chapter 9 summarises the findings and the connections made, presents implications of the research, and outlines possible avenues for further investigation.



Figure 1.1 Thesis structure

2

Design and 'professional
project' - defining design
in context

Chapter Two - Design and the professional project – defining design in context

2.1 Introduction

In order to successfully discuss issues with regard to the design culture and the place of designers in an organisation, we need to examine what is meant by design, designers and the design profession.

This chapter first engages with the context of design by means of definitions and a review of the major contributors in the field. It then moves on to present issues concerning the primary backdrop and point of reference for the thesis which is the design profession and its expression on an organisational level. Here, the historical emergence of the profession is briefly described through the lenses of a ‘professional project’. The role of educational frameworks and the shape of design research in the ‘project’ are also discussed. The chapter concludes with an introduction to design management as a growing field of inquiry and as the starting point of the argument of the thesis.

2.2 What is ‘design’? – definitions and conceptualisations

It is a common remark, made in virtually all academic and practitioner papers on issues relating to areas such as design research, design management, design science, that defining *design* is a notoriously difficult assignment. The ambiguity of the term is now almost legendary not least because it is both a noun and a verb, and could simultaneously refer to a process, an object and a function. Perhaps not surprisingly,

given the rising profile of design, the number of definitions seems to have increased over time. In 1986, Peter Gorb counted twenty six definitions of the term 'design'. Twelve years later Olson *et al.* (1998) noted there to be fifty.

According to Friedman (2002b) the verb *design*, describing a 'process of thought and planning', takes precedence over all other meanings of the term (*ibid.*: 200). He dates the usage of the verb from the early 1500s and its written citation from the year 1548. Merriam-Webster's (1993: 343) defines design as '[...] to conceive and plan out in the mind; to have a purpose; to devise for a specific function or end; to make a drawing, pattern or sketch; to draw the plans for; to create, fashion, execute or construct according to plan' (see also: Britannica-Webster's, 2003; Cambridge, 2003). In the early 17th century the word began to be used as a noun, describing 'a particular purpose held in view by an individual or group; deliberate, purposive planning; a mental project or scheme in which means to an end are laid down' (Merriam-Webster, 1993).

Despite the fact that the word 'design' refers first and foremost to the process rather than an outcome, popular culture and the media have also added to the confusion by using the adjective 'design' to denote an original form such as found in furniture, lamps or fashion (Broja de Mozota, 2003: 3). Additionally, there are now new terms in popular use such as 'designer drugs' or 'designer babies'. The effect of that is the proliferation of meanings and increase in ambiguity of the word 'design'. Arguably, until recently 'design' had no normative good or bad connotations. With the emergence of the adjective 'designerly' it has the capacity to become a pejorative or a positive term depending on an ethical or political stance of whoever is using it and whoever is the recipient. The latest addition is the term 'intelligent design'. It is being used as a political device in the United States in the battle for the introduction of creationism into schools' curricula.

This shows that the definitions of 'design' could also be appropriated and sometimes misappropriated by groups of people according to their specific agenda and their own values and goals (Lawson, 1997: 3). What a structural engineer calculating the dimensions of a beam might call design-which in this case describes a fairly well-

structured and understood problem- will be very different from what a graphic designer might call design whilst working on a poster campaign. Similarly, the word 'designerly' could be used to diminish or elevate somebody's work in the eyes of others.

Herbert Simon (Simon, 1996: 112) famously defined design as the process by which one devises 'courses of action aimed at changing existing situations into preferred ones'. This is arguably the definition closest to ubiquity in the fields of both design research and mainstream management. The reason for this is its comprehensive nature, whereby most forms of design are included '[...] to the degree that creating something new (or reshaping something that exists) for a purpose, to meet a need to solve a problem are courses of action toward a preferred situation even though we may not yet be able to articulate the preferred situation' (Friedman, 2002a: 3). If we acknowledge the primary meaning of the word 'design' to be an *action*, it leads us to see 'design' as a dynamic process (Friedman, 1993).

This broad definition however, is too encompassing to be used exclusively for the purpose of this thesis and is therefore only considered a starting point. One might envisage a deeply philosophical investigation that would see this definition as all too specific, but in the case of this doctoral assignment it must be grounded with greater conceptual precision.

If we query Simons' definition and ask a question 'A situation preferred by whom?' we see that the link between the generic understanding and more specific requirements on the level of an organisation is *culture*. Despite the fact that the practice of design as *making things with a useful goal in mind* predates the human race (Friedman, 2002b), the act of designing helped us to develop in conjunction with our cultures. It therefore cannot be extracted from the context of values, practices and culturally flavoured constructs. In fact, design has in this sense been so closely linked to human culture that it has not been given the attention it deserves (*ibid*).

It seems that without the basic understanding of how design shaped culture and how in turn culture shaped design, it would be impossible to comprehend what we mean by terms such as design:

The words *design*, *machine technology*, *ars* and *art* are closely related to one another, one term being unthinkable without the others, and they all derive from the same existential view of the world. However, this internal connection has been denied for centuries (at least since the Renaissance). Modern bourgeois culture made a sharp division between the world of the arts and that of technology and machines; hence culture was split into two mutually exclusive branches: one scientific, quantifiable and 'hard', the other aesthetic, evaluative and 'soft'. This unfortunate split started to become irreversible towards the end of the nineteenth century. In the gap, the word *design* formed a bridge between the two. It could do this since it is an expression of internal connection between art and technology. Hence in contemporary life, *design* more or less indicates the site where art and technology (along with their respective evaluative and scientific ways of thinking) come together as equals, making a new form of culture possible. (Flusser, 1999: 19)

It is almost unthinkable to separate design from culture in any imaginable form of inquiry. The two are strongly interlinked and cannot exist as separate entities. This fact has far-reaching consequences for analysing any issues regarding design, not least of an ontological and epistemological nature. As Buchanan puts it:

The principles of design are grounded in spiritual and cultural ideals, or in material conditions, or in the power of individuals to control nature and influence social life, or in the qualities of moral and intellectual character which stand behind the integrative discipline of design thinking and the productive arts. Such principles are presupposed and pre-existent in the concerns of each designer. (Buchanan, 1995: 29)

It would be a gross omission if, in the context of defining design, at least three other names were not mentioned: philosopher, architect, scientist, engineer and 'guru'

Bukerminster Fuller (1964; 1965; 1967; 1969; 1981; 1983); architect, mathematician, physicist and software engineer Christopher Alexander (1964; 1977; 1979; 1980; 1985; 1987; 2003); and, last but not least, industrial consultant, technology manager, urban planner, policy analyst and teacher Donald Schön (1963; 1983; 1987; 1991; 1992; 1996). They have made between them a substantial contribution to the way people understand and practise design.

Christopher Alexander in his *Notes on the Synthesis of Form* talks about design as ‘a process of inventing physical things which display new physical order, organization, form, in response to function’ (1964: 1). He considers the knowing involved in design as focused on the ‘goodness of fit’ of a form to its context. In Alexander’s view we usually cannot describe the rules by which we find a bad fit or recognize the correct fit. By developing ‘pattern language’ (1977; 1979) he tried to aid the design process where he saw the inadequacy of sole reliance on drawings and visual feedback. According to Alexander, in the design process a deductive relation between the design requirements and the form is constructed. ‘In designing, the designer can use the disclosed patterns to compose the whole design solution. The acquisition of the pattern, according to Alexander, is a question of fact instead of a question of value’ (Zeng and Cheng, 1991: 140). Alexander has been a firm believer that we all are somehow connected to one central value and can choose to make contact with it, hence making the process of design susceptible to objective scrutiny (Alexander and Protzen, 1980: 295):

I believe that differences in values can be resolved by appealing to one central value (note the singular). I believe, indeed, that this central value lies behind all things, which we may call the one, the void, the great Self: I believe that every person is connected to this value, and is capable of making contact with it, to a greater or lesser degree, by awakening his own consciousness: and that connection with this one value provides all with the ultimate basis for our actions, and for our actions as creators, artists, architects. (Alexander and Protzen, 1980: 295)

Buckminster Fuller (1969) characterises the design process as a flow of events. He splits the process into two parts. The first is a subjective part of search and research, and consists of the following steps: teleology, intuition, conception, apprehension, comprehension, experiment, feedback. The second part is a generalizable process that moves from prototype to practice. Here the steps are: prototyping, production design, production modification, tooling, production, distribution, installation, maintenance, service, reinstallation, replacement, removal, scrapping and recirculation (*ibid*: 343).

From Fuller's point of view, the design process is a comprehensive sequence of steps from teleology – the purpose or the goal toward which the process is heading – to practice and finally regeneration. The last event creates a new stock of material on which the designer may again act. Whilst when describing the service design process some specific terms may change, essentially the concept remains the same. What is clearly visible in his definitions is the split into theoretical and applied parts – the 'theory' and 'practice'.

The third of these arguably most influential thinkers in design theory is Donald Schön. In his seminal work '*The Reflective Practitioner*', he views a number of past advocates of the 'science of design' with Alexander, Fuller and Simon among them as bowing to what he calls Technical Rationality derived from the positivistic ideology of science (Schön, 1983: 30). According to Schön they could be described as paying homage to the 'scientific view' of design whereby it is only a matter of time before universal methods, procedures and techniques for 'scientific' design will be available. They have either introduced the term Design Science or adhered to the notion that design science will one day be possible. With perhaps the exception of Alexander, they see design as a somewhat lesser field, and one that has to first comprehend what the established branches of science have to say before it spreads its own knowledge to them. They seek to impose more structure, more cohesion and more clarity into the world of design.

Donald Schön proposes to see design as a 'reflective action' in the context of a 'conversation with a problematic situation' (1983; 1987). He recognizes the fact that

one cannot extract the design process out of a personal or professional context. By engaging the professional practice approach, he positions design squarely in the practical-cultural domain, and lays the foundations for understanding design in its situational dimension. Schön recognises the imperfect and ‘swampy’ grounds upon which all action is based. He describes decision making and discovery in similar terms as the projection of metaphors with which we are familiar onto new, unfamiliar situations. The act of designing involves the projection of a partial design onto a particular design situation (Coyne and Snodgrass, 1991).

With regards to the demands of professional knowledge, Schön orients himself with respect to scholars such as Edgar Schein, Nathan Glazer and Herbert Simon. He asserts that they all tackled the issue of the gap between professional knowledge and the demands of the ‘swampy’ world of practice. Schön claimed that Simon in his *‘Sciences of the artificial’* (Simon, 1996) saw designing as ‘instrumental problem solving: a purest form of optimisation’. He explicitly challenged the positivist doctrine underpinning much of the ‘design science’ movement and offered instead a constructivist/pragmatist paradigm. He believed that Simon’s view focused too much on solving well-formed problems and not on ‘the most important functions of designing in situations of uncertainty, uniqueness, and conflict’ (Schön, 1987: 41). Schön proposed an ‘epistemology of practice’ originating in the artistic, intuitive processes practitioners bring with them. This line of argument has since been successfully pursued by other scholars (Cross, Dorst *et al.*, 1992; Buchanan, 1995; Cross, Christiaans *et al.*, 1996; Akin, 1997; Goldschmidt and Porter, 1999). In Richard Buchanan’s view design is ‘[...] partly rational and cognitive, and partly irrational, emotive, intuitive, and noncognitive’ (Buchanan, 1995: 50). This is also how it appears to Schön.

At this stage it should be clear that there exist two fairly distinct streams in thinking about design. One group of commentators favours the pursuit of a ‘design science’, where ‘design science’ is ‘an explicitly organised, rational and wholly systematic approach to design; not just the utilisation of scientific knowledge of artefacts, but design in some sense a scientific activity itself’ (Cross, 2002: 3). The other group

subscribes to the view that designing is itself either non-scientific or a-scientific (Grant, 1979).

An argument could perhaps be raised that the reasons behind the systemising and ‘scientisizing’ of design might be socio-political in nature. As Sargent and Road (1994) poignantly suggest, ‘chasing after an illusionary “design science” is observed to be more a characteristic of engineering seeking enhanced status as physical scientists rather than emphasizing design creativity[...]’ (*ibid.*:402). What appears to be happening is that design, being in the process of establishing itself as a highly regarded profession, strives to ‘clean up its act’ in the eyes of other professions, government bodies and the general public in order to achieve respectable social status (MacDonald, 1995). In order to do so, within the ‘science-based’ paradigm, design must portray itself as coherent, predictable and robustly grounded in a comprehensive body of epistemic knowledge. If, at any point, a consensus develops that a general, wholly rational overarching set of finite methods which could be taught and examined and policed could not be found, it would have a decisive and most likely negative effect on the project of design ever becoming an ‘elite’ profession if assessed by those who want to see it aligned with the values and ways of the ‘natural’ or ‘physical’ sciences. Hence, design scholars seeking social status and recognition for their profession and themselves understandably might want to avoid presenting it as inherently ambiguous, subjective and to a considerable extent unpredictable. This point will be discussed more extensively in the following section.

2.3 Design disciplines, occupation and the emergence of the design profession

Schön’s interpretation of design as ‘a reflective dialogue with a situation’ and his analyses in professional contexts provide an important link between the enormousness of the term ‘design’, with its overabundance of meanings and interpretations, and the focus of this thesis, which is predominantly concerned with the domain of an organisation. It offers a conceptual bridge between on the one

hand *design* which is, on a very basic level, a process of mending our environment according to our will and is practised by virtually everyone, and on the other hand the need to analyse it within a manageable research project. The fact that Schön based his '*Reflective Practitioner*' on the premise of the importance of professions in societies and carried out empirical studies on a number of those, including management, can give confidence in following a similar approach to provide a feasible starting point for analysing design in organisations. Hence, it would seem vitally important to explain what is meant by 'the design profession' and to prepare the ground for comprehending its links with an organisation.

2.3.1 *Emergence of the design profession*

The importance of professions in our societies cannot be overstated. Virtually everything we as humans do is inherently linked to professional life. As Schön remarks:

We conduct society's principal business through professionals specially trained to carry out that business, whether it be making war or defending the nation, educating our children, diagnosing and curing disease, judging and punishing those who violate the law, settling disputes, managing industry and business, designing and constructing buildings or helping those who for one reason or another are unable to fend for themselves. Our principal formal institutions – schools, hospitals, government agencies, courts of law, armies – are arenas for the exercise of professional activity. (Schön, 1983: 3)

According to Simon (1996: 111) all professional practice is centrally concerned with *design* as a process of 'changing existing situations into preferred ones'. He believes that 'Schools of engineering, as well as schools of architecture, business, education, law and medicine, are all centrally concerned with the process of design' (*op. cit.*).

It is not however the purpose of this study to either analyse all those professions or to engage in a sociological debate around the formation of professions in society and

the general mechanisms for their emergence. There are contemporary sociological writings which effectively deal with this topic (see: Burrage and Torstendahl, 1990; MacDonald, 1995; Leicht and Fennell, 2001). There remains a question though – since, from a general point of view at least, all the professions are inherently concerned with design, which of those should one choose for an investigation of the grounded social impact of design on an organisation? The answer to that question consists of a number of related arguments.

Firstly, many scholars in *design management*, which is the field that bridges design and organisation, see that there are significant differences between managers and designers (Oakley, 1990; Walker, 1990a; Lester *et al.*, 1998; Shaw and Shaw, 1998; Shaw, Shaw *et al.*, 2002). The way in which they use the word ‘designer’ implies that he or she belongs to a family of design professions comprised of, among others, *architecture, product design, industrial design, graphic design and environmental design* and occasionally *engineering*. These professions have their roots in crafts and guild-based disciplines (Cooper and Press, 1995; Broja de Mozota, 2003) and have undergone a very different evolutionary pattern to the professions of, for example, accounting or medicine (Leicht and Fennell, 2001). Secondly, the precedent set by Gorb (1986) who was responsible for establishing early design management programmes at the London Business School: Gorb set the conceptual demarcation line when juxtaposing designers and managers and decided to exclude the *‘ideas-based’* disciplines in the description of ‘designers’. This, I presume, was a consequence of his personal experiences of seeing himself as the representative of an *‘ideas-based’* discipline, and thus was also conditioned by an external need for better understanding of educational requirements for the design management curricula. In addition, a number of recent writings in the field of design management consistently refer to the abovementioned group as *‘designers’* (Bruce and Bessant, 2002; Broja de Mozota, 2003; Boland Jr. and Collopy, 2004b; Ravasi and Lojcono, 2005).

Thirdly, Donald Schön, who like Herbert Simon, was a great enthusiast of the idea that design is something that all professionals do, decided to specifically concentrate on architecture as the ‘prototype of design’ (Schön, 1983: 77). He noted that there is a tendency to think of *policies, institutions and behaviours* as objects of design. Schön

stressed however, that in doing so '[...] we risk ignoring or underestimating significant differences in media, contexts, goals, and bodies of knowledge specific to the professions' (*op. cit.*). One of the other reasons he gave for studying architecture was that he simply had 'good opportunity to study it' (*op. cit.*). It is perhaps important to add that many scholars, Schön included, seem to believe that there is sufficient commonality amongst the design professions to address some of the issues relating to them as universal (Schön, 1983: 77). This leads me to the following reason for studying a particular group of *design professions* as opposed to *all* the other professions:

As someone with a management background, I found myself in a position where I was exposed to the environment saturated by professional designers such as *industrial designers, product designers, multi-media designers and graphic designers*, and was given the opportunity to resolve my initial bewilderment and confusion by studying the issues relating to this group in detail.

It can be seen that there are several grounds for choosing a family of professions which comprises all of the above. Some of the arguments could be traced back to the fact that this is not a philosophical inquiry but a thesis examining managerial and organisational settings. This stipulates the choice of the definitions and exclusion zones adopted by the discipline of *design management*. Other reasons are more personal and relate directly to my experiences as a trained manager arriving in an environment populated by *professional* designers.

Although the list is not exhaustive it provides an overview of the context for some of the research decisions. Consequently, from this point onwards, when I refer to *designers*, I will mean professionals trained and working in a 'family of design professions consisting particularly (but not exclusively) of *architecture, product design and industrial design*'. I am aware of the fact that, due to variety within this group, the *thesis* is making *a priori* assumptions about some form of internal cohesion within this group. In the following chapter, in the process of reviewing the design profession there will be an attempt to explain another, more profound and sociologically-based reason why I am able to include all of those professions under a single conceptual umbrella.

I suggest that there is another, precisely sociologically-based argument why, when academics and practitioners alike talk about designers, they rarely think of ‘engineers’. This thesis, as far as this subject is concerned, is linked to the leveraging of the ‘professional project’ (the process through which occupations become well established professions) by the family of design disciplines in essentially two different ways. The following section presents a brief review of the design profession through the conceptual lens of this approach.

2.3.2 Brief history of design professions – professional project’s point of view

A comprehensive discussion of the evolution of the numerous design disciplines and the outcomes of historically-bound design processes is not of the essence to this research project and could be followed up elsewhere (see: Banham, 1960; Fuller, 1964; 1965; 1967; Heskett, 1980; Thackara, 1988; Walker, 1989; Banham and Pawley, 1990; Dormer, 1990; McDermott, 1992; Dormer, 1993; Dormer, 1997; Woodham, 1997; McDermott, 1999; Morgan, 2000; Woodham, Volker *et al.*, 2000; McDermott, 2001; Heskett, 2002; McDermott, 2002). However, I feel it is important to outline a general tendency in the development of design professions as this will have a significant bearing on what follows in consecutive chapters of this thesis and on the selection of the ‘conceptual’ umbrella for my choice of design professions.

The following review of the design profession is based on the notion that occupations, in an attempt to assert their place in a society, follow what Larson (1977) calls a ‘professional project’. During the project the occupations dynamically position themselves with respect to a Weberian ‘ideal type’ and negotiate their way from both economic and socio-cultural perspectives. Figure 2.1 presents an outline of the working theory of the professions.

In order to proceed with the review it is important to briefly introduce three basic concepts – ‘ideal type’, ‘professional project’ and ‘social closure’. It is assumed that the reader is familiar with those notions. A more elaborate and exhaustive discussion

can be found in Weber (1978), Larson (1977), Berger (1976), Jenks (1993), Burrage and Torstendahl (1990) and MacDonald (1995).

Firstly, *ideal type* is a conceptual device that could be employed to interpret culture where the social actors project 'typical values and motivations to the supposed inner states of the actors under scrutiny' (Berger and Berger, 1976: 51). It enables the analysis of subjective meanings attached to objective social phenomena.

Weber's (1949) own definition of 'ideal type' is that it 'is formed by the one-side accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly emphasised viewpoints into a unified analytical construct' (*ibid.*: 90). It is a compilation of various observations to form an amalgamated understanding.

According to (Jenks, 1993: 52) ideal type is:

- a heuristic device
- a conceptual aid
- not seeking to exhaust or understand its phenomenon
- not a hypothesis
- not lowest common denominator
- not the 'core' – a selection of common elements
- not an inductive generalisation
- defined by what it is not.

Secondly, *'professional project'* is the process by which occupations organise themselves to attain market power (Larson, 1977: xiv). She summarises the approach in the following way:

Professionalization is [...] an attempt to translate one order of scarce resources – special knowledge and skills – into another – social and economic rewards. To maintain scarcity implies a tendency to monopoly: monopoly of expertise in the market, monopoly of status in a system of stratification. The focus on

the constitution of professional markets leads to comparing different professions in terms of the 'marketability' of their specific cognitive resources. (*ibid.*: xvii)

The *process* of professionalisation is generally described in terms of a sequence of often overlapping stages or events (Abbott, 1991). These events include:

- the formation of a professional association,
- attempts by members of the profession to gain control over their particular area of work
- the development of minimum standard of professional training and the establishment of training facilities,
- the pursuit of a professional knowledge base
- the development of a code of ethics,
- political agitation to gain public support for the claim to professional status and for affiliation with, and regulation by, the state (Bloor and Dawson, 1994: 282).

Macdonald (1995) offers an updated model of the 'professional project' whereby in addition to taking professions 'official actions and pronouncements', 'the ways in which professional behaviour is enacted and displayed to various appropriate publics by the professional body itself and by the constituent firms and individuals' are included (*ibid.*: 14).

The 'professional project' approach according to MacDonald offers good grounds for understanding how knowledge-based occupations that '[...] aspire to be accepted in society as professions set about achieving their goal' (*ibid.*: 34).

MacDonald's amended framework lists the following points with respect to a 'professional project':

1. Occupations must develop a special relationship with the state in order to achieve monopoly or at least licensure.
2. During and after securing a monopolistic position a profession must strive in the arena or compete in the marketplace with others who can substitute its

services. This means defending and probably enlarging the scope of its activities.

3. The professions are not totally self-seeking and engage in 'reasonable altruism' to remain convincing to the general public.
4. The overarching strategy of a professional group is best understood in terms of *social closure* (*op. cit.*).

Thirdly, *social closure* is the means by which the professional project is pursued. 'The occupation and its organization attempts to close access to the occupation, to its services and jobs; only 'eligibles' will be admitted. [...] Exclusion is aimed not only at the attainment and maintenance of monopoly, but also at the usurpation of the existing jurisdiction of others and at the upward social mobility of the whole group' (MacDonald, 1995: 29).

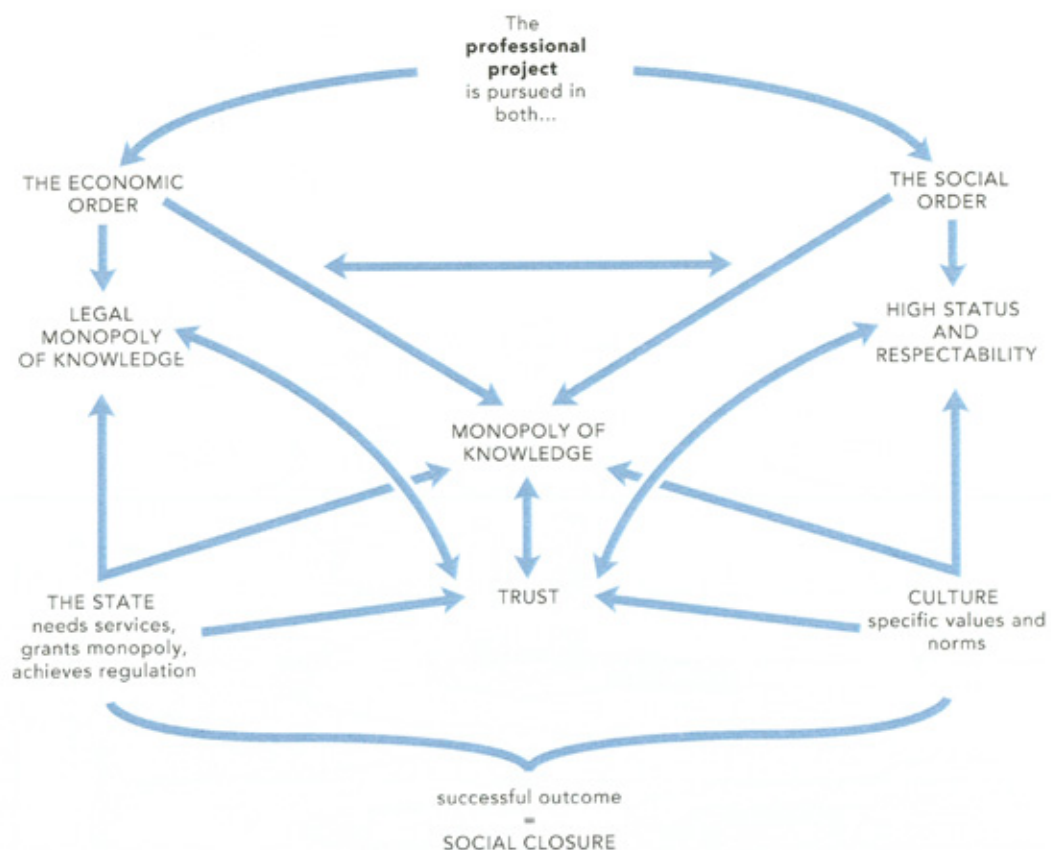


Figure 2.1 *A working theory of the professions: conceptual outline* (source: MacDonald, 1995: 32)

2.3.3 Design - the 'professional project'

There are few occupations that fail to seek out professional status (Schön, 1983: 4). As one author remarked, virtually everyone wants to establish a profession based around their special skill (Wilensky, 1964). This fact is not surprising since the professional recognition means increased social status, and a monopoly for specialised knowledge. As Everett Hughes cited by Schön (*op. cit.*) states, we as a society, honour '[...] the profession's claim to extraordinary knowledge in matters of great social importance' (*op. cit.*). Design is no exception to the quest for that elevated position in society.

Design, as it currently appears, is a relatively young family of professions (Friedman, 2002b) and dates back to the standardisation of production during the Industrial Revolution. Until that time, the processes of the conception of an object and its manufacture were embodied in the skill of the *craftsman* (Wolek, 1999).

It perhaps can be said that if products, services and most recently experiences did not have to be manufactured, prepared and eventually sold on the market for profit there would simply be no need for professional designers. Fine artists and craftsmen would suffice. As Forty (1986: 7) put it:

In capitalist societies, the primary purpose of the manufacture of artefacts, a process of which design is a part, has to be to make a profit for the manufacturer. Whatever degree of artistic imagination is lavished upon the design of objects, it is done not to give expression to the designer's creativity and imagination, but to make products saleable and profitable. (*ibid.*: 7)

As a consequence, the early evolution and development of the family of design professions begins with the emergence of the above condition.

Design came relatively late onto the socio-cultural scene as a professional contender. This meant it had to face up to the fact that there were already established professions such as law, medicine and accounting. It is my strong belief that

crucially, in the process of finding its own identity and recognition, design found itself wedged between what could be generally described as ‘fine arts’ and ‘science’ ‘ideal type’-based options for professional elevation. In the decades which followed, it silently split more or less into two sections – one aligning its ‘professional project’ to the realm and values of fine arts, the other to the values and ways of science. This was accompanied by the development of two distinct educational pathways, different professional institutions and even different ways in which the two families have been incorporated into an organisation (Cooper and Press, 1995). Nowadays, the ‘schism’ between the cultures of engineering design – representing the ‘science’ based project – and industrial design representing the ‘fine arts’ based project – is deeply entrenched and, as Ivor Owen, the former Design Council director believes, is damaging to the industry. He stated: ‘I strongly believe that the schism between engineering design and industrial design has been one of the most damaging issues in manufacturing industry imaginable’ (*ibid.*: 28). The question should hence be posed – how and why has the situation reached this stage of mutual animosity and seemingly irreconcilable professional positions?

The professional project journey started for both factions in the same place – the craft-based roots of design professions. It did however head in essentially two different directions. One based on the *social recognition* of the high status of ‘fine arts’, the other based on the *social recognition* of the status of ‘natural sciences’. Those were the two ‘ideal types’ recognised and highly regarded in the modern society. The emphasis in this instance is more on the ‘ideal type’ social recognition and associated identities and values (Weber, 1978) than on the philosophically-based debate about the nature of art and science taken up by authors such as Wittgenstein, Merleau-Ponty, Kuhn or Feyerabend. What is significant is the social perception of value through the association with both the technical revolution and its achievements personified by people like Darwin, Maxwell and Einstein, and the achievements of a poetic and artistic human expression associated with greatness of Shakespeare, Mozart or Picasso. Those social ‘role models’ represent and embody different aspirations, goals and values, and point to different models for the achievement of a higher status.

The professional design project needed to have a clear reference point that would leverage the quest for high social status and closure. Part of the profession followed the 'fine arts' route, the other chose to align itself with 'natural sciences', thus entering a self-propelled vicious circle moving away from each other (see Table 2.1). Whether the choice was planned or simply emerged out of the dynamics in the field is of secondary importance. What are significant are the actual consequences that resulted from the schism of the design profession which weakened its potential for adequate social closure and recognition.

<i>Craft roots:</i> Pottery, Embroidery, Jewellery, Calligraphy, Cart building, Thatching, Smithery, Weaving	
> 'fine arts' as a <i>leverage</i> to increased social status and 'professional closure'	> 'natural science' as a <i>leverage</i> to increased social status and 'professional closure'
<i>Fine arts origins:</i> Sculpture, Painting, Music, Photography, Dance, Literature, Poetry	<i>Natural sciences origins:</i> Mathematics, Physics, Chemistry, Biology,
<i>Design occupations:</i> Installations design, Fashion design, Furniture, Ceramics, Industrial design Automotive design, Interior design, Architecture, Exhibition design, Packaging design, Layout, Typography	<i>Design occupations:</i> Systems design, Electronics, Structural engineering, Electrical engineering, Mechanical engineering, Genetical engineering, Chemical engineering, Software engineering
<i>Role models, social icons:</i> Michelangelo, Mozart, Van Gogh, Picasso, Guggiarro	<i>Role models, social icons:</i> Newton, Darwin, Einstein, Hawking
<i>Highly regarded within the realm:</i> Originality Non-conformism Improvisation User testing Variation and multiplicity Human-centrism Risk-taking Cross-breeding Projection Manifestation of values	<i>Highly regarded within the realm:</i> Predictability Conformism Simulation Complex modelling Statistical quality control Optimisation Techno-centrism Dependable technique or method Peer appreciation Specialisation Benchmarking Formal structures and procedures Risk-aversion Falsification

Table 2.1 'Ideal type' models of distinct leverages in design's 'professional project'

Many commentators have argued that design as an independent profession originated in the early part of the twentieth century (Press and Cooper, 2003: 162). In the UK the Design and Industries Association was launched in 1915 whilst in the USA Susie Cooper, a ceramic designer and typographer Stanley Morison established their services. A few years later the world saw the rise of industrial design. In the context of the economic crisis of the 1930's in the United States, product design was starting to be recognised as uniquely important to commercial success. As a consequence, industrial designers – freelance consultants to industrial organisations – emerged. People such as Raymond Loewy and Walter Darwin Teague became the iconic personifications of the newly born 'profession' (Woodham, 1997). At this time, particularly due to the demand for a more eye-catching package, the majority of the work done in design consultancies focused on 'styling' and 'redesign' without the more fundamental work on the product. This was already happening in an environment where engineering was staking a claim in making the product work, and design was doing what was left and what, arguably, it knew best – making things more attractive. This division was by no means accidental. According to the thesis of the 'professional project', this was a consequence of the contrasting value bases corresponding with different social levers – 'natural sciences' in the case of engineers and 'fine arts' in the case of designers.

Further examples of this process can be found in the establishing of various professional bodies. In the UK during the WW II the Ministry of Information set up the Design Research Unit intended as the UK's first design consultancy. It was initiated to advise the industry on matters regarding designing. Despite the fact that there were some engineers involved, the work concentrated primarily on assignments such as interior design and graphic design (Press and Cooper, 2003: 162), thus reinforcing the argument about the bi-polarity regarding value models amongst design professions. In the USA Aspen International Design Conference was established and in Japan the Japanese International Design Association; those also had strong links with the 'arts' side of the division.

During the 50's, 60' and 70's the polarisation of the professional project increased. It is my understanding that it is more revealing to assess the situation in the

aforementioned way rather than addressing it as a ‘debate between partisans of rational design and functionalism, and partisans of symbolism’ (Broja de Mozota, 2003: 27). Although that may have indeed been the case on the surface of the argument, the underlying reason for it, in my view, was the quest for ‘social closure’ in two, entirely different ways. Examples of the ‘natural science’ –led professional project included:

- The ULM school (Hochschule für Gestaltung) in Germany, defending functional design, classic examples including Braun Design
- The engineering design movement in the United States, creating convenient, vital products, particularly for the army, such as the Jeep in 1941 and the Ranges in 1942 (*op. cit.*)

The exemplars of the ‘fine arts’ – led project included:

- The development of American Pop Art, and a mass culture that linked the new ‘jean attitude’ with hybrid design
- The revival of ‘crafts’ in London with the Biba store and the rebirth of an Art Deco style
- The realization of the Independent Group in London, which emphasized colours, decoration, surface, and pop fashion
- In Italy, the Radical Design and Archizoom movements, inspired by Pop Art and Indian mystical culture (*op. cit.*)

Also at that time a number of design consultancies started to appear. Among those were Pentagram, Wolff Olins, Frog Design, Digital Design and others. Large corporations saw the need to incorporate design into their processes in order to support the marketing function. Representatives were Herman Miller, Philips, Braun, B&O etc.

What Broja de Mozota (2003: 28) calls the ‘return of ornamentality’ to design between 1975 and 1990 I consider the triumph (if only temporary) of the ‘fine arts’ based design project. It succeeded at least in a sense of claiming the term ‘design’ and disassociating itself from the ‘natural science’ based project. From this point in time onwards there has been no doubt that the term ‘designers’ first and foremost

encompassed people and organisations such as Alessi, Issey Miyake, Giorgetto Giugiaro and Philippe Starck.

More recently, at least from the 1990's, another important influence has acted on the professional design scene. Technological evolution has had a major impact on, and is now very much ubiquitous in, design. The consequences of this fact for the professional project are currently unknown. All that is certain is that design as a profession has not yet been accredited with the professional status (Press and Cooper, 2003: 166) and is still very much an on-going, fluctuating project struggling to define itself. As Press and Cooper (2003) state:

The 'profession' has not been defined categorically by either the practitioners or the educators. Despite attempts in both the UK and the US to regulate designers and identify statutory knowledge and skills, this has never been achieved. Perhaps therefore it would be wiser to consider the profession as a set of disciplines, identifying the context in which they operate and the skills required to practise in those contexts. (*ibid.*: 169)

If we adhered to this advice, it would be difficult to move forward, because every analysis would lead us to a very basic level of a task, or a very specific situation. It is my firm belief that there is credibility in analysing the design professions' common points and making certain generalisations in particular with regard to their chosen values. There is however one condition. One must look at either the 'fine art' based professional project or the 'natural science'-based professional project. The current state of affairs, as it was already indicated, appears to be that the former is putting a strong claim that it represents the profession's value base.

2.3.4 Design education as a tool of the ‘professional project’

From the design educator’s point of view one can see how the system has become the means by which the designers are socialised into their ‘professional projects’ values. In the UK, education initially followed a route of vocational skills training developed in art schools and later in colleges of art and design. It later transformed marginally to embrace more theoretically-based courses with lesser emphasis on studio work. However, the core values as sketched out in Table 2.1 remained true to the ‘fine art’-based professional project. In 1996 the Design Council listed the following Art and Design courses:

- Graphics – graphic design (general), book/magazine design, illustration, media/multimedia, packaging, photography, printing, typography
- Fashion/clothing – fashion/clothing design (general), theatre costume, footwear;
- Textiles – Textile design (general), carpet/rug embroidery, knitted textiles, printed textiles, surface pattern/decoration;
- 3D – products – product design (general), ceramics, furniture, glass industrial design, engineering design, jewellery/silver
- Spatial design – spatial design (general), architecture, building exhibition display, interior, landscape, theatre/stage
- Mulidisciplinary
- Other (after: Press and Cooper, 2003: 176).

If we, in addition to the above, examine the list of US undergraduate majors offered by the 34 AICAD (Association of Independent Colleges of Art and Design) member colleges, we can rather easily determine to which part of the design project they belong to (see Table 2.2). One could hardly imagine there would be a large number of students graduating from those courses who would choose their preferred values and methods from the right hand side of the Table 2.1, for example striving for high conformism with the overall method based on truth-through-falsification, predictability of outcomes and emotional detachment.

Advertising	Animation	Architecture
Architectural Studies	Art Direction	Art Education
Art History	Art Therapy	Cartooning
Ceramics	Clay	Communication Design
Computer Animation	Computer Graphics	Design Marketing
Drawing	Enamelling	Environmental Design
Fashion Design	Fibres	Film
Filmmaking	Fine Arts	Furniture Design
Glass	Graphic Design	Illustration
Industrial Design	Interior Architecture	Interior Design
Jewellery	Landscape Architecture	Medical Illustration
Medical Photography	Metals	New Genres
Package Design	Painting	Papermaking
Performance	Photography	Printmaking
Sculpture	Textiles	Transportation Design
Video	Weaving	Wood

Table 2.2 US undergraduate majors offered at 34 AICAD (Association of Independent Colleges of Art and Design) member colleges (source: Press and Cooper, 2003: 169)

It is apparent, even without taking a very detailed look at the individual courses, that the educational arrangements seem to have been adding to the momentum and fuelling the schism between the two different professional projects in design.

2.3.5 Design research and the professional project

Reviewing the still very immature debate in design research from the professional project's point of view one can observe a similar interplay of the two social projects.

Broadbent (2002) presents a review of design methodologies suggesting there have been four different generations. First one based on craft method with some 250 000 years of history; the second being design-by-drawing 550 years old; third, one named 'hard systems' with 40 years of heritage; and finally 'soft systems' 20 years old. From the contemporary 'professional project's' viewpoint, only the last two are significant. Those correspond respectively to the 'science' and 'art' based value sets of the proponents. This suggests that roughly the design professions' struggle to establish itself is as old as its methodological debate.

Cross (2001) correctly predicted the ‘re-emergence’ of the ‘science-design’ concerns in the 2000s (*ibid.*: 16) as a part of a cycle in design field. The cycle began in the 1920s with the modernist movement which tried to produce works of design based on the allegedly objective and rational science (Broadbent, 2002: 2). In the 1960s a second wave of interest in ‘design science’ arrived via the likes of Alexander, Simon and Rittel. The First Conference on Design Methods in 1962 recognised the need for systematic approach to design practice which was sympathetic towards creative practices and was pursuing ‘[...] a unified system of design [...] that lies between the traditional methods, based on intuition and experience, on the one hand, and rigorous mathematical or logical treatment, on the other’ (Jones, 1963 in Broadbent, 2002: 6). It did however fail in this attempt (*ibid.*). Providing these goals might have been logically, philosophically and conceptually feasible, they might have not been socially feasible, precisely because holding contradictory sets of values whilst pursuing the professional project’s agendas, may have been irreconcilable on an individual, human scale.

It is evident that this debate is still in flux. A number of recent conferences such as ‘No Guru no Method’, Finland, 1996, ‘Design Plus Research’ Italy, 2000 and ‘Common Ground’, UK, 2002, bear witness to this very fact. Those symposia have all been devoted to discussing the current and future shape of the design research field with regard to its philosophical underpinnings and acceptable methods. This debate must take place and be able to reach some sort of resolution before design achieves full professional recognition and is therefore instrumental to the success of the ‘professional project’.

There have been numerous attempts to bridge the gap between both ‘projects’ in a sense of developing design’s own knowledge and methodologies (Alexander, 1964; Simon, 1969; Alexander *et al.*, 1977; Cross, 1984; Buchanan, 1992; Bucciarelli, 1994; Jimenez Narvaez, 2000; Cross, 2001; Broadbent, 2002; Friedman, 2002a). And despite the strong philosophical underpinnings of thinkers such as Dewey, Peirce, Habermas, Wittgenstein, and the post-modernist movement in the science debate, it still cannot find its voice on culturally equal terms with that of ‘natural science’ or ‘fine arts’. Judging by the current very energetic debate, the goal is as elusive as ever.

Broadbent (2002) expressed an opinion that the next step in the development of the design methodology as an 'evolutionary system methodology' will 'position design as an evolutionary guidance system for socioculture; a much more socially central role in human affairs' (*ibid*:1). In this statement we can clearly trace the signs of the 'professional projects' manifesting itself in the pursuit of a higher social place based on perfecting the design method.

Similarly, Friedman (1997; 2002b) has been advocating the dawn of the 'integrative discipline' of design. He has carried on the 'science' baton after Fuller and Simon. Friedman presents a taxonomy of design knowledge domains as a framework within which a designer should act (see Table 2.3) in order to give proper credit to the 'integrative' paradigm. Friedman asserts that the most common reasons for failure in design include 'lack of method and absence of systematic and comprehensive understanding' (*ibid*:5), thus echoing the values of the 'science' based professional project. In his view, design should integrate all the existing established disciplines and designers should be able to comprehend a large portion of the 'basic' sciences. What he appears to be saying is that design, in order to be 'comprehensive', must to a large extent be 'predictable', and should first and foremost become a careful student and recipient of established 'professional' knowledge.

Learning and Leading	The Human World	The Artifact	The Environment
Problem solving	<i>The human being</i>	<i>Product development</i>	<i>Natural environment</i>
Coaching	- Human behaviour	- Methodology	- Ecology
Mind mapping	- Information semantics	- Market research	- Evolution
Research skills	- Knowledge creation	- Innovation research	- Environment Impact
Analysis	- Physiology and ergonomics	- Problematics	<i>Built environment</i>
Rhetoric	- Research and methodology	- Product generation	- Cityscape
Logic	<i>The company</i>	- Creating new products	- Economy
Mathematics	- organizational management and behaviour	- Transforming old products	- Social web
Language	- Business economics	- Product regeneration	- Infrastructure
Editing	- Company culture	- Improving products	- Traffic
Writing	- Leadership	- Positioning	<i>Telecommunication</i>
<i>Presentation skills</i>	- Administration	- Re-engineering (lean production)	- Airports
- Public speaking	- Future planning	<i>Design</i>	- Food distribution
- Small group	- Process management	- Product design	- Human ecology
- Information graphics	- Change management	- Ergonomics	<i>Architecture</i>
	- Process skills	- Product semantics	- Informated buildings
	- Company functions	- Product graphics	- Usage
	- Governance	- Functionality	- Architecture as idea
	- Logistics	- Graphics design	- Architecture as corporate identity
	- Production	- Visual ergonomics	- Profile architecture
	- Marketing	- Typography	<i>Interior</i>
	- Finance	- Corporate design	- Furniture
	<i>Society</i>	- Behavioural design	- Interior as corporate identity
	- Trends	- Information design	- Psychology
	- Legal issues	- Knowledge design	- Function
	- Media	- Process design	- Social structure
	- Social economics	<i>Manufacturing</i>	- The shape of work
	- Communications	- Technology	- The shape of play
	<i>The world</i>	- Operations	- The shape of private life
	- World trade: EU, USA, Asia	- Statistical quality control	<i>Installation</i>
	- Cross-cultural issues	- Logistics	- Philosophy of space
	- Political economics	- Process management	- Culture theory
	- Theory Basics		- Art ideas Inquiry
	- Culture theory		
	- Sociology of knowledge		
	- Reception theory		
	- History of design		
	- Sociology of taste		
	- Content analysis		
	- World history		
	- Paradigm analysis		
	- Models		

Table 2.3 Design Knowledge taxonomy (source: Friedman, 2002: 213)

This is but a one out of the numerous attempts to ‘tame’ design methods. But instead of regarding it as concerned with *better* design scholarship one could interpret it as yet unsuccessful attempts at making design matter in society in a politically driven bid to elevate design’s role in society’s eye.

Consequently, the ‘common ground’ agenda could have been championed by those circles associated with the ‘design science’ movement who have failed to convince the rest of the community on two previous attempts (1920s and 1960s). To illustrate the point one might use the following example.

Friedman (2002b), in his attempt to justify the focus on the ‘integrative’ interpretation of the new ‘scientific’ approach to design, states: ‘Past environments were simpler. They made simpler demands. Individual experience and personal development were sufficient for depth and substance in professional practice [...]’ (*ibid.*:212).

But a very similar point was made by Alexander (1964) precisely four decades ago when introducing ‘pattern language’ as now demonstrably failed aid to tackling the complexity in design. Back then he wrote:

Today functional problems are becoming less simple all the time. But designers rarely confess their inability to solve them. Instead, when a designer does not understand a problem clearly enough to find the order it really calls for, he falls back on some arbitrarily chosen formal order. The problem, because of its complexity, remains unresolved. (*ibid.*:i)

The question raises itself: are we seeing the new incarnation of the previously failed attempt at legitimising ‘scientific’ approach as the model for professional practice in design?

In order to convince sceptical designers and the rest of the professional community this time about the merits of design as ‘science’, scholars are invoking paradigms such as *complexity theory*, *systems theory*, *artificial intelligence*, *evolutionary theory* and

neurobiology with the intention of structuring and ‘strengthening’ the seemingly weak and fluctuating design methodology. Whether they fail or succeed remains to be seen. However, judging from the history of science and art in the design arena there might be yet another cycle ahead, more as a result of political and social fashion than the merits of the argument. Friedman states: ‘The science of design does not mimic natural science’ (Friedman, 2002b: 206). Whether this statement is equally accurate with regards to the ‘substance’ as well as the ‘rhetoric’ should be placed under scrutiny.

As a point of comment it could be said that the fact of the matter is, that it would have to be ‘real people’ who either accept the ‘science of design’ message and its values or they will reject it. The theories and philosophical underpinnings might be ready, as some authors suggest, but the designers who are practising and researching in design may not be. As the state of the professions shows they might want to embrace another set of values which do not carry with them a message of structure, cohesion, predictability, stability and non-randomness. Those individuals might want to live by other set of rules and values. However, with regard to carrying *both* sets of values *simultaneously*, my presumption is that it will prove extremely difficult to find enough individuals *willing* and *capable* to mount such an attempt. And if we interpret this through the lens of the professional project they might not have a socially based incentive to do so, since the adherence to the already established ‘markers’ might give them better leverage in gaining social status.

It is difficult to speculate about whether there will come a time when design will no longer want or need to use either ‘fine arts’ or ‘natural sciences’ as a leverage to gaining social respect. Moreover, it is also not clear whether it will ever be recognised by the society as something completely different – a third way of equal value. It appears however, that since the status and recognition to a large extent depend on the external acknowledgement by the remaining professions, it is unlikely that they will be willing to create for themselves a very attractive and practically skilled competitor.

2.4 The rise of design management studies

An even more recent phenomenon in the field of design is the emergence of the design management discipline to which this thesis is inherently linked. The rise of design management dates back to 1980 in the UK with the establishing of the Design Council – the mouthpiece for designers' positive contribution to the competitive advantage of organisations. Although as Press and Cooper (2003: 181) note, the term itself can be traced to the 1960s with the establishment of the RSA Design Management Award in 1965 and publication of Michael Farr's book *Design Management* in 1967, the real effort to put design on management's map began a little over two decades ago.

The professional project began with the formation of the Society of Industrial Artist and Designers (SIAD) Design Management Group in 1981. Peter Gorb at the London Business School led the subject's introduction into the academic arena which subsequently resulted in the first MBA programmes. In the United States a forum for discussing design in corporations has been established in the form of Design Management Institute. In Europe the European Academy of Design was founded in 1995 (*ibid*).

As far as writing on the evolution of design specifically from the management point of view is concerned, not a single manuscript has been published. Apart from anything else, this fact suggests that the links between organisation studies and design have not been fully explored. In extensively cited books on design management (Lorenz, 1986; Oakley, 1990; Cooper and Press, 1995; Thackara, 1997; Myerson, 2001; Bruce and Bessant, 2002; Heskett, 2002; Broja de Mozota, 2003; Press and Cooper, 2003) we find only limited commentary on the history of design in organisations. If they do refer to the past, it is in a rather unsystematic way with the emphasis on analysing the individual cases of successful products, architecture or experiences.

The professionally based journals such as Design Management Journal, Design Week and ID are far from engaging in an academically minded debate. Other outlets

including Design Review, Co-design, Design Studies and Design Journal, feature articles on design management but only to a limited extent.

One of the reasons for the absence of quality material or scholarship has to be that the history of reflection on the role of design in organisations is not very old. Since the design management discipline is approximately 20 years old, it seems it has very little of its own history on which to report. Another reason, perhaps, is that as previously mentioned, the design management literature refers to a number of design professions such as architecture and industrial design as one category. Those professions have themselves extensive histories which could not possibly be effectively summarised or reviewed in books that predominantly deal with design in a management context. It is telling, however, that the same books which treat historical aspects in a rather limited fashion have considerable commentaries on the 'future' of design, which does suggest the future-oriented and projective nature of the design management agenda.

Given that the prime proponents of design management admit that their discipline is in need of redefinition (or indeed definition) (see: Press and Cooper, 2003: 182), it cannot be taken as such as a foundation for this study. It has to be treated with a mixture of academic scepticism and adequate perspective. Some writings from this field, however, have served and will serve as a reference point with regard to the central issues being discussed.

It is important to report though, on a development which could prove to be very significant with respect to furthering the recognition of design in the field of the *mainstream* management studies. A recent realisation by a part of the organisation science community that design has something significant to offer resulted in the first and perhaps even seminal compilation of articles by established scientists of the field. An edited book by Richard Boland and Fred Collopy (2004b) titled *Managing as Designing* is a momentous development. In it various authors show an unprecedented appreciation of the depth of the term '*design*' in connection with many key aspects of management studies. It would not be surprising if a critical and well-informed debate

in the mainstream organisation studies about the current, past and future place of design in organisations started from this publication.

2.5 Summary of the chapter

This Chapter firstly outlined the context of design and the proposed definitions and conceptual demarcation lines. It followed through the introduction of the more socially-based understanding of design in contemporary society by portraying it as motivated by the need of gaining an increased social status. A conceptual tool, the ‘professional project’ was used in order to structure the review of the emergence and the state of the design profession and to give credibility to the grouping of certain design professions under one conceptual umbrella. In consequent parts a brief introduction to a contemporary educational design framework was introduced. The chapter concluded with an interpretation of the methodological debate in the field of design research along with the introduction of design management as the linking mechanism between design theory and organisational domain inquiry.

3

'Designerly' ways of
knowing - what is known
about designers

Chapter Three – ‘Designerly’ ways of knowing – what is known about designers

3.1 Introduction

Following on from the previous Chapter, it is important to outline the contemporary references to the elements relating directly to one of the central topics of this research, namely the investigation of the professional culture in a design-intensive organisation. The issues such as *‘designerly’* ways of knowing, skills of designers, and the nature of design activity, are among the topics that need to be examined.

This Chapter investigates the literature from the point of view of the characteristics, skills, and attitudes of designers. It analyses theoretical arguments from three different perspectives. Firstly, it discusses the *architectural/educational* perspective with examples from Alexander and Schön. Secondly, the chapter takes up the review of the *psychological school* and scholars such as Lawson, Durling and Newland. Thirdly, the *design management* approach is presented with contributions from Cooper, Press, and Broja de Mozota. It concludes with several points of critique levelled at the existing literature, and offers an alternative approach to studying designers in organisations that is linked to their impact as a social group.

3.2 Attributes of design thinking – qualities and skills of designers

A designer makes things. Sometimes he makes the final product; more often, he makes a representation – a plan, program, or image – of an artifact to be constructed by others. He works in particular situations, uses particular

materials, and employs a distinctive medium and language. Typically, his making process is complex. There are more variables – kinds of possible moves, norms, and interrelationships of these – than can be represented in a finite model. Because of this complexity, the designer's moves tend, happily or unhappily, to produce consequences other than those intended. When this happens, the designer may take account of the unintended changes he has made in the situation by forming new appreciations and understandings and by making new moves. He shapes the situation, in accordance with his initial appreciation of it, the situation 'talks back', and he responds to the situation's back-talk. (Schön, 1983: 79)

There has been a large number of volumes written on the traits, skills and thinking of designers (Polanyi, 1966; De Bono, 1970; Polanyi, 1973; Lawson, 1979; Kirton, 1980b; 1980a; Lawson, 1980; Cross and Nathenson, 1981a; Schön, 1983; Lorenz, 1986; Newland *et al.*, 1987; Bernstein, 1988; Goel and Pirolli, 1992; Schön and Wiggins, 1992; Cross, 1995; Margolin and Buchanan, 1995; Cross *et al.*, 1996; Durling *et al.*, 1996b; Lawson, 1997; Cross, 1999; Cross, 2000; Bruce and Bessant, 2002; Sacher, 2002; Lawson, 2003). My understanding is that, in essence, the literature could be divided into three different strands of analysing designers and their skills.

Firstly, there is the architectural studio tradition with a strong emphasis on design education. This approach looks predominantly at the design activity and design process through the lens of designer-learner, designer-educator or designer-practitioner. Some of the representatives of this praxis are Schön (1983; 1987; 1991), Chandran (1988), Lewis and Bonollo (2002), Goel (1995) Lawson (2001; 2003) and to a large extent Cross (1984; 1992; 1995; 1996; 1999).

Secondly, there is the more psychologically-based mode of research into designers' ability and thinking. Here the accent is placed more on the cognitive styles and personality traits of designers. Exemplary work in this instance includes, among others, Lawson (1979; 1997), Newland *et al.* (1987), Durling *et al.* (1996b; 1996a), Feist (1998) and Kirton *et al.* (1991).

Thirdly, there is a category which offers a more management-based viewpoint. This is a perspective that sees designers as contributors to the commercially based aims of an organisation. The research in this convention is largely done by design managers, design consultants, organisational researchers or designers who are strongly connected with the management milieu. Examples in this respect include: Lorenz (1986; 1990), Bernstein (1988), Walker (1990a), Gorb (1986), Cross (1999), Broja de Mozota (2003), Bruce and Bessant (2002), Bruce and Harun (2001), Shaw and Shaw (1998), Shaw et al. (2002), Press and Cooper (2003). What follows is a summary of selected, major contributions from each of the above traditions.

3.2.1 Architectural/ educational perspective

According to Alexander (1964; 1977), the design process has become too complex to be handled in its totality by any single designer-architect relying solely on the visual feedback he or she receives whilst designing. Therefore, a designer needs to be able to divide the project up into smaller parts – semi-independent sub-systems which could be dealt with separately. He proposes to use what he calls ‘a pattern language’ in order to aid a designer in a demanding process of optimising his or her work. His view is that designers, and indeed all humans, are connected to one source of a ‘central value’ which helps to make judgements and decisions about the ‘fit’, or for that matter, ‘miss-fit’ of the solution presenting itself to this central value. As it turned out, his ideas, although considered important at the time, were destined to fall into obscurity. In the age of endless possibilities, shifting values and all-encompassing pluralism, his ‘central value’ as a guiding principle behind the skill and method of a designer seems to be considerably miss-aligned culturally. Alexander’s recent work includes the use of ideas and concepts from the world of architecture in order to inform the study of scientific problems (Alexander, 2003). He also concentrates on revising his theories in order to accommodate more dynamic reality.

Another author to discuss design ability from the architectural perspective has been previously mentioned, Donald Schön. In *The reflective practitioner* from 1983 he gives a seminal account of the dynamics of working and learning within the professional

design environment. Schön's description of rather generic qualities of a designer includes first and foremost the ability to engage in a reflective conversation with a problematic situation. In his view all practitioners must, to a certain degree, develop this capacity. However, often for the sake of gaining professional recognition they hide behind the veil of Technical Rationality. When they do engage wholeheartedly with the reflective process they make use of their tacit knowledge and non-logical processes in order to swiftly operate in a situation of an action-reflection loop. The designer listens to the situation's back-talk and reflects accordingly – sometimes adjusting the solution only slightly, sometimes adjusting some fundamental boundary conditions. He or she will most likely use a 'central idea' as a guiding principle in order to give the otherwise unstructured and fluid process a central 'spine'. Whilst making on-the-fly adaptations, the designer encounters both anticipated and unanticipated consequences. Adequate reflection takes both of these kinds into account.

One of the most elaborate and commonly referred to voices in the debate on the skills, abilities and thinking of designers has been that of Nigel Cross (1992; 1995; 1999; 2000; 2003). In Cross's view, all professionals are designers and indeed, all of us possess some form of design ability (Cross, 1995). This outlook is consistent with what Schön (1983) and Simon (1996) advocate. Cross then takes a normative step forwards and states that whilst this is true, some designers are better than others (Cross, 1999). Although his later work appears to be sympathetic towards defining design ability situated within an organisational setting, the fact that his study in general is more concerned with an independent-of-the-economic-realm 'design ability' - as a type and distinct form of 'intelligence' - it is categorised along with the more generalist and educationally-based tradition. In addition, his links to the design management literature of people such as Lorenz (1986) suggest that he is making an effort to contribute to this part of the debate as well.

Cross (1999) has compiled a meta-analysis of the nature of *design thinking* and *designerly ways of knowing* based on his own and other researchers' interviews with famous designers (*architects, engineers and product designers*), observations and case studies, protocol studies, reflecting and theorising, and simulation trials (*ibid.*: 22).

What follows is a summary of his compilation, which is also an attempt to relate what the designers were saying about the topic of design research. It includes the following characteristics of *good* design.

Design in Cross' view is *rhetorical*, which means it is persuasive. Design is also rhetorical 'in the sense that the designer, in constructing a design proposal, constructs a particular kind of argument, in which a final conclusion is developed and evaluated as it develops against known goals and previously unsuspected implications' (*ibid.*:28). Cross provides a quote from the architect Denys Lasdun which in his opinion summarises the rhetorical nature of design:

Our job is to give the client [...] not what he wants, but what he never dreamed he wanted; and when he gets it, he recognizes it as something he wanted all the time. (*op. cit.*)

Another characteristic of design is that it is not '[...] a search for the optimum solution to a given problem, but that design is *exploratory*' (*op. cit.*). The way in which a designer interprets a design brief is open and fluid. The nature of the question is not entirely known until the solution presents itself. This has strong links to the nature of design problems which are often perceived as ambiguous, open-ended or 'wicked' (Buchanan, 1992). The *good* designer does not see an early brief as a given but rather tries to discover something new hidden in the assignment. Cross asserts that, the vagueness of the relationship between problem and solution is reconciled by the emergent nature of the latter.

Precisely that forms another attribute of design - design is *emergent*. It means that the solution and the problem develop concurrently. This is a similar statement to that made by Schön (1983) where a designer in a problem-solution-space engages in a reflective conversation with the circumstances and often changes the early goals and constraints. This suggests that 'the problem only becomes apparent as you are trying to solve it' (Cross, 1999: 29).

According to Cross as a result of the fact that all the relevant information cannot be predicted in advance of the design activity, the decisions and directions taken during the design process occur partially by chance. This, he argues, means that design is *opportunistic*.

Cross also believes that 'intuition' plays an important role in the process of design and that it is shorthand for what really happens – the reasoning in design is to him *abductive*. This is '[...] a type of reasoning different from the more familiar concepts of inductive and deductive reasoning, but which is the necessary logic of design – the necessary step from function to form' (*op. cit.*).

In Cross' view, another characteristic of design thinking is its *reflective* nature. There is a 'conversation' taking place where a designer is engaging both the 'external' and the 'internal' representations of a problem. He or she needs to have some medium – which for example could be a sketch – to 'converse' with. It is, undoubtedly, in very close correspondence with what Schön extensively discusses with regard to the process of designing (*op. cit.*).

That design is *ambiguous* follows in this argument. As an illustration of his claim Cross offers the following comment, made by structural engineering designer Ted Happold:

I really have, perhaps, one real talent; which is that I don't mind at all living in the area of total uncertainty. (*ibid.*: 30)

Uncertainty within the design process, in a sense of leaving open alternative avenues of exploration until the last possible moment, is what Cross means by design being *ambiguous*. To him, '[...] designers will generate early tentative solutions [...] and are prepared to regard solution concepts as necessary, but imprecise and often inconclusive' (*op. cit.*).

Lastly, design is *risky*. The process of design it is not easy and comfortable. Often design reputation is made by taking considerable risks (Cross, 1999).

In addition to all of the above statements about the nature of *design intelligence* or *design thinking*, Cross stresses the importance of drawing and visualising during the process of design. He states that design ‘intelligence’ is possessed, to a certain extent, by everyone, which is consistent with the likes of Alexander, Simon, Polanyi, and Schön. But he goes on to say that this ‘highest form of human intelligence’ – *the best* design intelligence – is possessed by *the best* professional designers (Cross, 1999: 31).

It appears that Cross seems to be presenting those ‘themes’ as a finite and exhaustive list, almost as a kind of taxonomy. He never makes this argument explicit and if that indeed is what he implicitly suggests, it simply cannot stand up to scrutiny. There are a few reasons why. A number of those ‘characteristics’ are overlapping and are not on the same level of conceptual decomposition. For example, some of them refer to situations a designer finds him or herself in (for example: ambiguously set goals will lead to an ambiguous situation), others relate to the goals of design, others such as *emergent*, *opportunistic* and *reflective* concern the *modus operandi* of design.

One could ask a question: is it *always* like that? Does design thinking *always* have to be ambiguous, risky, abductive etc.? From this point of view Cross’s description seems to be rather ‘static’ in a sense that he shows a snapshot of the various statements made by famous designers by extracting those out of the contexts in which they were (or are being) made. We do not know what the circumstances were in which these statements were made. What is also absent from the commentary is whether they referred to specific organisational settings and if the author believes they are immutable. The composition suggests he presents those characteristics as dispositional statements relating to a static, ‘ideal-type’ *design thinking*.

We could, for example, see how other designers might think that design is divergent and/or convergent, open, transparent, multifaceted, rapid, etc. In fact, there are a number of statements made by Smythe (2002: 14) which could make an equally compelling list representative of *design thinking*. Some of these are: quantitative and qualitative, subjective and objective, determinist and emergent, rational and intuitive, positivist and constructivist etc.

Alexander (1964; 1977; 1980) designer is:	Schön (1983) designer is:	Cross (1995) Designer must be able to:	Chandran (1988) designers competences:	Cross (1999) designers thinking is:
Attentive to the 'central value'	Listening to 'back-talk' in the problem-solution-space	Produce novel, unexpected solutions	Core Knowledge Competence	Rhetorical
Persuasive	Engaged in deep reflection	Tolerate uncertainty, work with incomplete information	Problem Solving	Exploratory
Uses 'pattern language' to simplify the process	Thinking-by-drawing	Apply imagination and constructive forethought to practical problems	Critical Thinking	Emergent
Tries to achieve the 'good fit' between problem and solution	Aesthetically judging the 'goodness of fit'	Use drawings and other modelling media as means of problem solving	Creativity	Opportunistic
	Working with the material	Resolve ill-defined problems	Engineering Judgement	Abductive
		Adopt solution-focusing strategies		Reflective
		Employ abductive/productive . appositional thinking		Ambiguous
		Use nonverbal, graphic/spacial modelling media		Risky
		Work with several alternative design solutions in parallel in order to understand the problem-solution-space.		

Table 3.1 Examples of the analysis of the designers' abilities and thinking

The second approach to analysing design ability stems mostly from the experiential method of psychology.

3.2.2 *Psychological school perspective*

A number of studies engaged in studying designers from cognitive ability or cognitive and learning styles perspective (see Table 3.2). These studies usually draw from work in psychology of cognitive styles which use categories such as: convergent/divergent; linear/lateral; serialist/holist; appositional/propositional; focused/ flexible.

One example is provided by Lawson (1979). In it he conducted an experiment in which he examined the way students of engineering, architecture and science were dealing with an abstracted design problem. He was specifically interested in investigating different problem-solving strategies. Lawson found that scientists were more interested in discovering the underlying structure of the problem in order to generate a solution, whilst architects were testing out sequences of high-scoring solutions until one got accepted. In an additional experiment he found that different strategies developed in the course of architects' and scientists' education. The difference was clear amongst fifth-year and postgraduate students, it was not observed among first-year students. Lawson concluded that the architects had therefore learned this strategy during their design-based education as a response to the nature of the problems they had to deal with.

Cross and Nathenson (1981a) identified that it is important to study cognitive styles in order to inform design education and design methods. Newland, Powell and Creed (1987) continued the work in this respect by taking up a study of the learning styles among architects. The authors used Kolb's (1975; 1985) learning styles as the foundation of their study. Kolb's classification contrasts various aspects of learning. He juxtaposes 'abstract conceptualisation' and 'concrete experience'; 'active experimentation' and 'reflective observation'. Subsequently these extremes provide four types of learning styles. People who, in their learning, prefer active experimentation and concrete experience are labelled '*accommodators*'; the ones who favour abstract conceptualisation and active experimentation are called '*convergers*'; if they are more prone to using reflective observation and abstract conceptualisation they are called '*assimilators*'; and those people who prefer reflective observation and

concrete experience are labelled '*divergers*.' Based on those abstracted categories Newland *et al.* (1987) distinguish four types of designers by their preferred learning style:

- *Common-sense* designer-learners – are abstract thinkers, combine abstract thinking with experimentation or concrete experience – usually efficient architectural planners
- *Dynamic* designer-learners – base their learning on dynamic incidents in life, aware of opportunities, seek constant feedback
- *Contemplative* designer-learners – combine reflective observation and abstract conceptualisation
- *Zealous* designer-learners – actively experiment and reflectively observe, are practically-driven.

Durling, Cross and Johnson (Durling *et al.*, 1996b; 1996a) conducted a study in which they explored cognitive styles among art-based design students. The authors similarly to Newland *et al.* (1987) decided to employ a well known method as a backdrop of their investigation. Durling *et al.* used Myers-Briggs Type Indicator, a tool extensively tested in the field of psychology of personality. They concluded that there is a match between students' preferred way of learning design and the preferred way of teaching it in the UK design educational system. Another important outcome was that over three quarters of design students (including: graphic design, furniture design, interior design and design marketing) have a preference for *Intuition* and a majority also preferred *Perception*. A quarter of the studied design students were of one (out of sixteen!) personality type – ENTP (Extroversion, Intuition, Thinking, Perception). This suggests they are more interested in intuition than thinking and will strive for maximum freedom and flexibility in the pursuit of intuitive goals.

Durling *et al.* (1996b) also concluded that designers prefer teaching which begins with abstractions and a general overview and then proceeds to explaining details; has a light structure that allows for exploration; focuses on possible future scenarios whilst giving alternative viewpoints and is based on exemplars of displayed things. A third of designers allegedly are additionally inclined towards a person-centred

approach and value judgements. In contrast, non-designers favour teaching which begins with details and facts, and then engages in generalisations using a step-by-step process. The authors stress that no single kind of design learning is suitable for all designers.

This arguably provides further support for the notion concerning the split of the ‘professional project’ in design into ‘fine arts’ and ‘science’ based as was suggested in Chapter 2.

Carrol (1993) in Arvola (2002) investigates cognitive abilities of designers:	Durling et al. (1996b; 1996a) cognitive styles among art-based design students (Myers-Briggs Type Indicator), preferred teaching styles:	Newland et al. (1987) learning styles among architects based on Kolb's (1975; 1985) learning styles; similar - (Cross and Nathenson, 1981b)	Kirton (1980a; 1980c) cognitive styles in (Walker, 1990b). Two overarching cognitive types. Designers belong to 'Innovators'
Communication ability	Intuition over thinking	Common-sense designer-learners	Adaptors
Inductive reasoning	Feeling		Innovators
Associative memory	Maximum freedom in the pursuit of intuitive goals	Dynamic designer-learners	
Visual memory	Perceptive attitude	Contemplative designer-learners	
Manipulating spatial relations	Broad picture in the early stages then details	Zealous designer-learners	
Perceiving gestalts or closures	Focused on future possibilities		
Gestalt or closure flexibility	Lightweight structure allowing exploration		
Visualisation	Logical and analytical based on exemplars showing things		
Perceptual speed	Prefer teaching which begins with general picture and then it focuses on details and facts and more guided instruction		
Associational fluency			
Sensitivity to problems			
Originality/creativity	No single learning style is suitable for all designers		
Figural fluency	ENTP ¼ of all designers		
Figural flexibility	(Extroversion, Intuition, Thinking, Perception)		

Table 3.2 Psychological studies of designers

3.2.3 *Design management perspective*

The design management perspective presents the study of designers from a point of view where they are contributors to the economically based processes within organisations. Since the emergence of design management in the 1980s there have been several investigations into the place of design in business and the character of the designer's input. (Kotler and Rath, 1984; Gorb, 1986; Lorenz, 1986; Lorenz, 1990; Cooper and Press, 1995; Thackara, 1997; Lester *et al.*, 1998; Lockwood, Bachman *et al.*, 2001; Press and Cooper, 2003; Lockwood, 2004; Lojacono and Zaccai, 2004; Ravasi and Lojacono, 2005). Some of those studies have been associated with either the Design Council in Europe (Bruce and Harun, 2001; Bruce and Bessant, 2002) or the Design Management Institute in the US (Broja de Mozota, 2003) who either commissioned the work or were affiliated with the authors.

In the early days of the analysis Lorenz (1986) identified a number of skills of designers in the organisational context. In his view, designer's most fundamental skill is *synthesis*, or as he calls it 'cross pollination' from one field to another. The second most important skill is that of visualisation - the ability to visualise shapes and the relationship between objects in three dimensions. He emphasises the use of imagination (after Theodore Levitt) as 'the construction of mental pictures of what is or is not actually present, what has never been actually experienced' (*ibid.*: 20). Furthermore, designers act as interpreters and stimulators in the product development process. Lorenz (1986) underlined the importance of designers in an organisation and their role as that of 'facilitators' rather than 'stylists' (*ibid.*: 7). His list of skills was based on a number of case studies of 'design-minded' organisations and interviews with well-regarded designers.

At a similar time, Gorb (1986) who is responsible for setting up the first design management courses at London Business School, defines designers as people who: work with artefacts, have special skills relating to manipulating artefacts and operate under a distinct methodology (*ibid.*: 107).

Walker (1990b) juxtaposes designers with managers by presenting a list of corresponding characteristics in categories (see Table 3.3). In it he suggests that designers are concerned, among other things with: short-term aims, reform, prestige, things and environments. Their education is in crafts, arts, visuals and geometric shapes. Walker also lists designers' thinking styles as holist, lateral, synthetic and solution-led. As aspects relating to designers' culture and behaviour, he lists optimism, innovativeness, diversity and experimentation. It is, however, unclear how he has reached his conclusions. Apart from one source, a study of managers' styles of problem solving by Kirton (1980b), he provides no references regarding designers themselves. One can perhaps presume that those are based on his personal reflections stemming from his experiences in the field. To a certain extent one can also see them as an expression of a stereotypical view of the differences expressed by someone coming from the management studies perspective. In that sense, it is a useful illustration which could be taken into account as one of the individual voices of managers/scholars. It cannot however be seen as a list of results derived from a designed and controlled empirical study.

Characteristics	Managers	Designers
<i>Aims:</i>	Long term Profits/returns Survival Growth Organizational durability	Short-term Product/ service quality Reform Prestige Career building
<i>Focus:</i>	People Systems	Things Environments
<i>Education:</i>	Accountancy Engineering Verbal Numerical	Crafts Art Visual Geometric
<i>Thinking styles:</i>	Serialist Linear Analysis Problem oriented	Holist Lateral Synthesis Solution-led
<i>Behaviour:</i>	Pessimistic Adaptive	Optimistic Innovative
<i>Culture:</i>	Conformity Cautious	Diversity Experimental

Table 3.3 Manager-designer polarities (source: Walker, 1990: 152)

Bruce and Harun (2001) in a study commissioned by the Design Council, have highlighted the distinctive skills of professional designers (see Table 3.4). The report outlined designers' strategic and tacit skills, such as: *creative thinking, decision making, risk taking and user focus*. Their attempts, however, fall short of establishing a distinct, quasi-unique set of shared, espoused values, which designers possess and bring with them to the organisational domain. Without any additional research one can state that non-designers are also thinking creatively, taking difficult decisions and managing considerable risks in their work.

Applied skills	Knowledge	Processing	Values/perspective
Practical design skills	Process	Visualising	Risk taking
Creativity techniques	Material	Researching	Originality
Commercial skills	Technical	Analysing and prioritising	Anticipating future trends
Presenting, report writing	Commercial	Scenario building	Proactive in developing relationships
		Adapting and inventing	
		Presenting and persuading	Managing uncertainty
		Synthesising information	
		Understanding and balancing stakeholder requirements	
		Intuitive thinking and action	

Table 3.4 Key skills of designers (source: Bruce and Harun, 2001)

Designers, according to Bruce and Bessant (2002), are good at drawing and model making, have a visual imagination and sensitivity and are commercially oriented. In addition the authors state that:

A good designer has the ability to integrate, interpret and conceptualise solutions. Designers are under constant pressure to develop new skills and re-

train in new technology, and they can harness technology and 'couple' this with user needs to create novel products and/or services. (*ibid.*: 48)

Broja de Mozota (2003) builds a set of in-house design competencies on Cooper and Press's (1995) classification into: *design, relational qualities, business sense, project management, and the capacity to generate a perspective*. The authors believe that designers' ability to generate concepts must be complemented by management abilities and relational abilities. Table 3.5 presents a summary of the competencies which, according to Broja de Mozota, should be required of an in-house designer. Similarly to other scholars in the field the list appears not to be supported by a methodologically grounded empirical study but rather proposed by the author based on her experience and understanding.

Design competencies	Related skills
Driving the process competencies	<ul style="list-style-type: none"> - commitment, enthusiasm, self-confidence - results orientation - team orientation - high
Design competencies	<ul style="list-style-type: none"> - objective creativity - technical, colour, and conceptual ability
Business orientation	<ul style="list-style-type: none"> - organizational, planning, problem solving - commercial skills
Perspectives and framework competencies	<ul style="list-style-type: none"> - gathering and using information - strategic thinking - consumer/customer focus
Interpersonal competencies	<ul style="list-style-type: none"> - relationship building - influence - presentation skills - flexibility

Table 3.5 The five design competencies (source: Broja de Mozota, 2003: 217)

Press and Cooper (2003) divide the 'attributes' of a professional designer into two categories. Firstly, they list those skills that relate to the *act* of designing including *manipulation* of colour, texture, shape, space, odour etc.; and *visualisation* of concepts using context-specific materials and media (*ibid.*: 179). Secondly, the authors feature skills/attributes which relate to the *process* of designing: research, question, integrate,

isolate; be intuitive, sensitive, holistic, divergent, convergent; deconstruct, synthesise, reconstruct, innovate and create; communicate verbally, non-verbally, in words, images and forms (*op. cit.*). The comment which could perhaps be made here is that if the list were to be taken at face value professional designers would have to be exceptionally talented and skilled to be able to master all of them. In this instance the skills seem also to have been derived from an act of ‘thinking about’ rather than ‘researching amongst’ designers.

A summary of some of the features attributed to design and designers made by the commentators from the design management field can be found in Table 3.6.

Gorb (1986) designers:	Bruce and Harun (2001) distinctive skills of professional designers:	Lorenz (1986) attributes and skills of a designer:	Press and Cooper (2003) skills/attitudes of a professional designer:	Bernstein (1988) characteristics of a designer:	Broja de Mozota (2003) designers' and qualities:
Work with artefacts	Creative thinking	Imagination	Relating to the <i>act</i> of designing:	Designer as synthesiser	Not afraid to make mistakes
Have special skills relating to artefacts	Decision making	The ability to visualise shapes and the relationship between objects in three dimensions	- Manipulation of colour, texture, shape, sound, space, odour, etc.	Sees new associations,	Simplify work presses
Operate under a distinct methodology	Risk taking		- Visualisation of concepts using context-specific materials and media	Explainer – uses visual thinking to understand and communicate	Work fast
	User focus				Do not accept clients briefs as givens
	Relating to processing:	Creativity	Relating to the <i>process</i> of designing:	Loves things, has product passion	Able to generate concepts
	- visualising	Natural unwillingness to accept obvious solutions	- Research, question, integrate, convergent	Imagination	
	- researching		- Be intuitive, sensitive, holistic, divergent, convergent	Creativity	Management abilities:
	- analysing	The ability to communicate through words and sketches	- Deconstruct, synthesise, reconstruct, innovate, and create	Lateral thinking	- sense of dialogue
	- scenario building		- Communicate verbally, non-verbally, in words, images and forms	Curiosity	- creative imagination
	- adapting and inventing	The ability and versatility to synthesize all sorts of multi-disciplinary factors and influences into a coherent whole		Employs seemingly illogical means to reach the solution	- capacity to influence and listen
	- presenting and persuading				
	- synthesising information				
	- balancing stakeholder requirements				
	- intuitive thinking				

Table 3.6 Examples of the descriptions of the skills and qualities of designers

3.3 Designers' skills and roles – commentary

There are several issues which must be raised in order to reflect upon the aforementioned studies. Some of those have been already alluded to whilst reviewing the literature. What follows is a further critical assessment of the literature on designers, their skills and roles in an organisation.

Firstly, the authors write about the role of designers and their skills as though the methods which they have used to reach their conclusions were self-evident. Apart from the psychological school represented by papers such as Lawson (1979), Durling et al. (1996b; 1996a), and Cross and Nathenson (1981a), Newland et al. (1987), the work seems to rely primarily on undisclosed methodologies. Occasionally the commentators refer to the case study method but without making it transparent and open for closer examination. Nor do they adhere to a scholarly respected interpretation of this method such as Yin's (1994). The process of getting to those lists of skills/attributes/characteristics is often also not made clear. Additionally, there appears to be a great deal of projection of personal values onto these sets. Cross (1999), for example, says that there are, as he calls them, 'good' designers. Without much deliberation on what in his view 'goodness' is, in what circumstances and for whom, he moves on to presenting a list of characteristics of 'design thinking' or 'design intelligence'. This brings me to my next point of criticism.

Secondly, in a number of publications, not excluding Cross's, there is much confusion with regard to the level of conceptual decomposition of these 'characteristics'. Often a single contributor will discuss things which relate to the skills of designers, the nature of design activity, design intelligence and the nature of the process of design in the same paper without appropriately distinguishing between them. And, when he or she does create categories to accommodate any differences-in-kind among them, they end up classed in an even more misleading and confusing way. This does not positively contribute to enhancing the quality of the discussion in and around the topic. In order to clarify the matter I allowed myself to organise most of the characteristics/skills etc. present in the review into conceptually symmetrical groups. (for graphical representation see Figure 3.1)

These groups are as follows:

- a. *Practical* skills: drawing, visualising, manipulating artefacts in three dimensions, gathering and using information, presentation building, report writing, researching, working with different media;
- b. *Cognitive/mental* skills: visual thinking, manipulating spatial relations, associational fluency, reflectivity, synthesising, critical thinking, creativity, visual memory, inductive reasoning, perceptual speed, Gestalt closure flexibility, lateral thinking, holistic thinking;
- c. *Interpersonal* skills: communicating verbally and non-verbally, listening, relationship building, persuasion, delivering presentations, social integration, flexibility, sense of dialogue;
- d. *Organisational/business* skills: understanding and balancing stakeholder requirements, business and commercial sense, project management, planning, scenario building, strategic thinking, consumer/customer focus, team orientation;
- e. Designers' *personal preferences/traits* both stemming from socialisation and inherited: risk taking, opportunism, originality, feeling, intuiting, pursuing freedom of expression, future focus, exploration, perception, extraversion, sensitivity to problems, optimism, enthusiasm, self confidence;
- f. Nature of the *process/method*: ambiguous, exploratory, emergent, experimental, abductive, opportunistic, rhetorical, risky, reflective, integrative, convergent, divergent reconstructive, constructive, innovative.

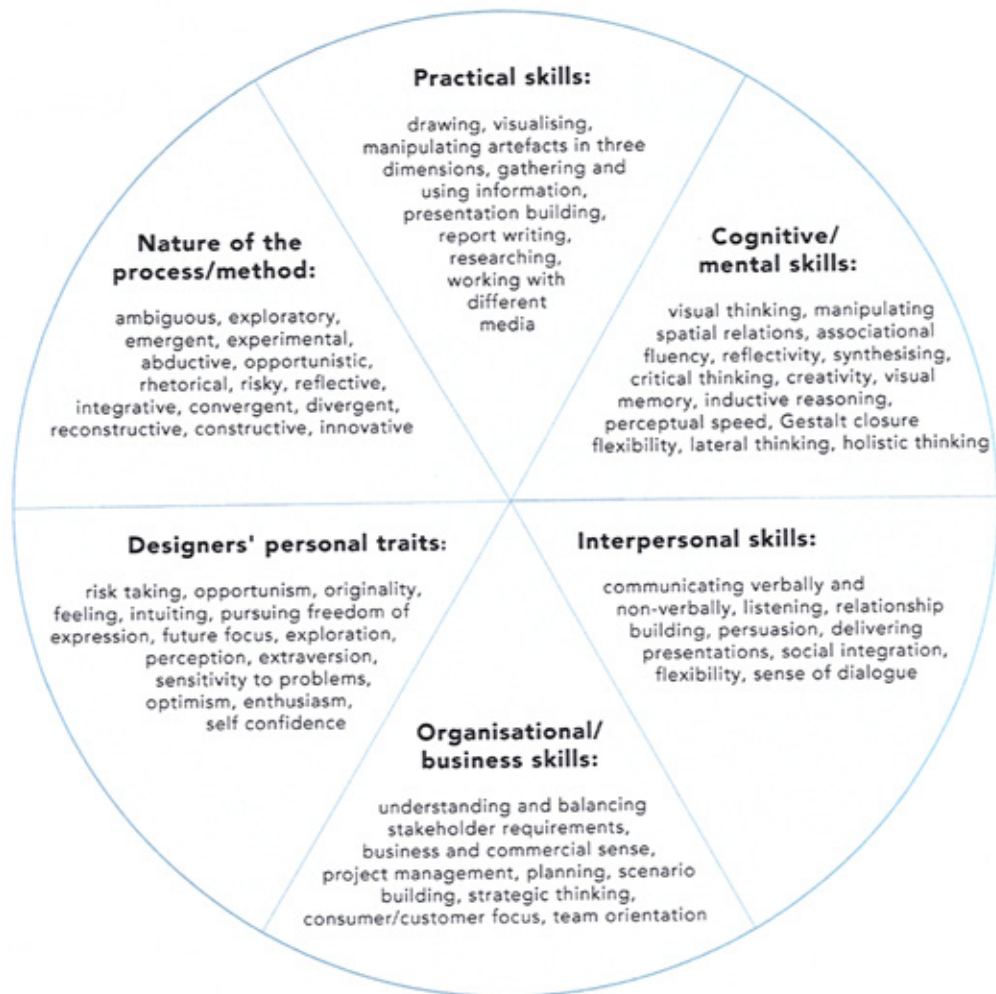


Figure 3.1 Designers' skills and characteristics

Furthermore, the authors rarely attach caveats or contingencies to those lists, as though to suggest they were universally applicable. The situations and circumstances in which these skills are being used seem to have no impact on them whatsoever. It is impossible to say, depending on the conditions, which combinations of skills would be necessary, desirable or indeed redundant according to the authors. One would anticipate that in all likelihood not all of those skills/characteristics will be present at all times. There are virtually no references (except for a number of psychological studies) when and if some of those would be void.

Perhaps most crucially of all, what seems to be missing in this debate is a more critical, socially-based understanding of the influence and composition of the professional group that designers are, or are indeed trying to become as has been indicated in Chapter 2. In particular the design management literature has favoured an 'evangelistic' line in this respect. This stems from the establishment of bodies such as the Design Council who from the outset have been involved in unequivocally 'selling' a positive message about design and designers to the business world (Press and Cooper, 2003: 181). There is virtually no evidence of any critical debate about designers' skills and place in an organisation. One of the reasons underpinning this situation is the fact that the field is very young and not mature enough to start critically examining some of its own arguments.

As outlined in the previous Chapter, designers, whilst forming a profession, are engaged in a 'project' which sees them adhere to certain values as a means of gaining social and economic recognition. In order to achieve closure and position themselves high in the professional pecking order, they socialise themselves in accordance with certain chosen, or more likely, unconscious values, attitudes, assumptions and 'ways of doing things'. Those two factions have been described in as 'ideal types' based on 'fine arts' and 'sciences'. The design educational systems and especially devoted professional institutions are being deployed to aid in that process.

Since a thorough understanding of the entirety of this dynamic phenomenon would be too ambitious for anybody, a situated and grounded study of these values in action could prove feasible. This particularly relates to the organisational level where a better targeted understanding of things such as the values, attitudes and behaviours of designers as a group might help dispel confusion and the common misapprehension of the place and role of designers in an organisational setting.

Therefore, it is thought it would be diligent to investigate designers not only as individuals but also designers as a group, with respect to the nature of their contribution to an organisation. This group-level analysis has the potential to untangle some of the complex issues associated with designers' many skills, roles and

thinking in an organisational domain. By grounding the inquiry in a transparent methodology one might try to avoid potential problems identified in parts of the existing literature. Additionally, publishing a method and a process of reaching the conclusions might also act as a catalyst to stimulating an open and structured debate in the field.

In order to support the research intentions from Chapter 1, the following research task is outlined:

To investigate the nature of the 'art' based professional design culture through its place in a design-intensive organisation

After establishing design as a profession, albeit one not yet fully recognised, in the following chapters I will be referring to designers as a professional group, bearing in mind that this group is not yet crystallised. As a consequence of this, designers will also be susceptible to being analysed and described as an occupational group.

3.4 Summary

This chapter engaged in the presentation and critical analysis of three different schools of analysing designers' abilities and roles in and outside organisations.

Firstly, it examined the *architectural/educational* perspective with its origins in design studio perspective. The focus of this tradition has been on the design activity and processes as performed by learners and educators, the interactions between the two groups and the relationship with design praxis. This school concentrated on issues such as the nature of design problems and the character of the appropriate methods and modes of engagement for tackling those problems.

Secondly, the *psychological* perspective looked at the research into designers' thinking and abilities. It was observed that these studies usually draw from work on individual cognitive styles and use the experimental method. Findings in this school point to

issues such as designers' preferred learning modes or their dominant problem-solving heuristics.

Thirdly, the *design management* perspective gave insights into designers' skills and attributes from the point of view of their contributions to commercial organisations. The bulk of research in this tradition is being done by consultants, management and organisational scholars and practising designers.

Finally, the Chapter offered a critique of the existing literature's contributions. It has, for example, mentioned the perceived inadequacies in the degree of transparency in the research methods employed. In conclusions, the 'characteristics' identified in the review within the different schools were reclassified into six groups, in an attempt to provide greater conceptual clarity and homogeneity.

4

Exploring professional
design subculture in
organisation - theoretical
considerations

Chapter Four – Exploring professional design subculture in organisations – theoretical considerations

4.1 Introduction

As a consequence of defining design within professional parameters a conceptual link needs to be established between professions and an organisation. This link is provided by outlining and juxtaposing issues referring to professional and organisational cultures respectively.

Professional cultures not only have similar features to organisational cultures (Van Maanen and Barley, 1984; Bloor and Dawson, 1994) but also reside in them as *enhancing*, *orthogonal* or *counterculture* (Martin and Siehl, 1983; Trice and Beyer, 1991). Thus, organisational cultures provide context and anchoring points for studying professional design culture in an organisation.

This Chapter prepares the grounds for exploring the connection between the emerging design profession and an organisation. It first presents issues regarding the studies of cultures in organisations. The following parts outline the link between organisational and professional cultures establishing definitions and conceptual markers. The Chapter concludes with a summary of premises for empirical investigation into professional cultures in design-intensive organisations.

4.2 Cultures in organisations

Defining culture, as with defining design, is an exceptionally difficult task. Apart from being ‘one of the two or three most complicated words in the English language’ (Williams, 1988; in Clegg, Higgins *et al.*, 1990: 87) the term ‘culture’ has no broadly agreed meaning even in the field which centrally deals with the study of it, namely anthropology (Ortner, 1984; Borkowsky, 1994). As Alvesson (2002: 3) notes, the variation in use of the word is particularly noticeable in the literature on organisational cultures. The heterogeneity of the studies stems in his view not only from the different purposes and depths of books and articles but also from the variation in scientific disciplines and philosophical orientations. He writes:

The concept of culture seems to lend itself to very different uses as collectively shared forms of for example, ideas and cognition, as symbols and meanings, as values and ideologies, as rules and norms, as emotions and expressiveness, as the collective unconscious, as behaviour patterns, structures and practices, etc. all of which may be made targets to study. (*op. cit.*)

The very broad use of the term often results in it covering ‘everything and consequently nothing’. The expression of the interest in ‘culture’ by many researchers does not equate with describing the same thing. A number of scholars share Alvesson’s appreciation and unease with regards to the plethora of inconsistent and often misleading definitions and approaches to studying cultures in organisations (Ott, 1989; Martin, 1992; 2002).

For a substantially long period of time, understanding of the term ‘culture’ was informed by anthropology, in which culture *is a way of life* (Czarniawska-Joerges, 1991: 288). According to Czarniawska-Joerges (1991) there are two categories of definitions: ostensive and performative. The former attempts to explain principles, the later explore practices (*ibid.*: 286).

Among the many definitions of organisational culture, probably the most pervasive have been: ‘the way we do things here’ (Peters and Waterman, 1982); and ‘a set of

shared basic assumptions, values and artefacts which developed whilst dealing with problems of external adaptation and internal integration' (Schein, 1992). They both put the system of shared values as the core of an organisation's culture.

One important definition of culture is offered by Geert Hofstede. It states that an organisational culture is as a web of shared perceptions, shared practices and shared values: 'organisation's culture is located in the mental programmes of all members of the organisation' (Hofstede *et al.*, 1990; Hofstede, 1998).

Bloor and Dawson (1994), the authors who debate the concepts of professional and organisational culture, defined the latter as: '[...] a patterned system of perceptions, meanings, and beliefs about the organization which facilitates sense-making amongst a group of people sharing common experiences and guides individual behaviour at work' (Bloor and Dawson, 1994: 276). They concluded that the ability for professional subcultures to shape organizational culture is not static but develops over time and reflects a complex interplay between the cultural constituents of an organisation and the external environment. This understanding is closely aligned with the overall approach adopted in this study.

In addition, Martin (2002) offered an analysis of several definitions of the term 'organizational culture' (see *ibid.*: 57-64). She outlined some common characteristics such as focus on 'sharedness', 'uniqueness' and 'distinctiveness' and also 'breadth' – how many manifestations are being studied and 'depth of interpretation' – the level of embeddedness of those manifestations. There were, however, a number of theoretical disagreements with respect to these characteristics being inherent in culture. Martin consequently questioned those allegedly common descriptions of an organisational culture such as 'sharedness' or 'uniqueness'. In her view, there was a great deal of confusion among cultural researchers with regard to those matters.

Her assessment of the variety and widespread inconsistency in defining culture led her to putting more emphasis on analysing what is actually being studied, how it is being operationalised and what sorts of cultural manifestations are being studied. As a result, Martin (1992) devised a framework, now broadly recognised by

organisational researchers, which includes three perspectives: *integrative*, *differentiation* and *fragmentation perspective*. Those will be reviewed in the course of this Chapter. Firstly though, it is important to introduce the description of the mechanism by which culture is being ‘transmitted’ to new members and outline cultural manifestations which form the access points to studying culture.

4.2.1 Socialisation – enculturation

As some authors believe, one of the most important functions of a culture is to facilitate socialisation of new members (Louis, 1985; Schein, 1992). Brown (1998) states that socialisation, also called *enculturation*, ‘[...] refers to those processes by which participants learn the culturally accepted beliefs, values and behaviours (and relinquish others that are not compatible with the culture), so that they are able to act as effective members of the group’ (*ibid*: 57).

In Schein’s (2004) view, socialisation is a central process of transmitting the values and assumptions from the well established shared core to those who are being acquainted with it. He makes his point in the following words: ‘[...] once a group has culture, it will pass elements of this culture on to new generations of group members’ (*ibid*: 18). Schein suggests that studying what is being taught to new members can unveil some aspects of a culture. The very survival of the ‘shared’ culture depends on the successful teaching of the assumptions to newcomers. He thus implies that ‘culture’ and ‘socialisation’ coexist and are somewhat external to each other.

In the case of Louis (1985) the function of this socialisation is explained in his definition of workplace culture – a culture here is: ‘[...] a set of understandings or meanings shared by a group of people. The meanings are largely tacit among members, are clearly relevant to the particular group, and are distinctive to the group. Meanings are passed on to new group members [culture’s essence is] the totality of socially transmitted behaviour patterns, a style of social and artistic

expression, a set of common understandings' (*ibid.*:75). This view puts increased emphasis on such characteristics as 'tacitness', 'uniqueness' or 'distinctiveness'.

Alvesson (2002), on the other hand, challenges the identification of the causal relationships between culture and socialisation and argues that the two cannot be separated due to the fact they are inherently intertwined. He writes: 'without culture socialization is impossible and without socialization there would be no one to 'carry' culture' (*ibid.*: 57). In his view it is more appropriate to see culture as a 'prerequisite of socialization' rather than seeing it as its facilitator. Socialisation, in Martin's (1992) view, is an emblem of the *integrative* view of culture and is a representation of the movement in culture analysis which seeks consensus, cohesion and clarity whilst marginalizing ambiguity and dissent (*ibid.*: 171).

This study builds on the interpretation that culture is a group phenomenon and therefore needs to be seen as a result and a cause of group processes. It conforms to the view expressed by Trice (1993) that cultures cannot be solely created and maintained by individuals. The following statement by Trice and Beyer (1992), authors who embraced the subcultural/occupational view of cultures, is endorsed by this thesis:

They [cultures] originate as individuals interact with one another. Individuals may originate specific ways of managing the fundamental insecurities of life, but until they come to be collectively accepted, expressed, and put into practice they are not part of culture. Persons who do not endorse and practice prevailing beliefs, values, and norms become marginal and may be pushed or expelled. Belonging to a culture involves believing what others believe and doing as they do – at least part of the time. (*ibid.*)

4.2.2 *Some views on the process of socialisation*

In order to explain the process by which new members of an organisation make sense of organisational life, Harris proposes the concept of 'schemas' as a series of mental maps (Harris, 1998). (see also Weick, 1995; 2001b)

A schema is a cognitive, structured, knowledge base which helps people simplify, manage and interpret information and make sense of individual and group action (see Lord and Froti, 1986 20).

According to Harris (1998), individuals have four categories of schemas at their disposal:

- *private internalised* schemas which have accumulated from past experience;
- *shared internalised* schemas which have been socially validated as 'correct';
- *private attributional* schemas which reflect individual understanding of the values, beliefs and likely behaviours of others;
- *shared attributional* schemas which consist of shared understanding of the values, beliefs and behaviour of others (*ibid*).

Internalised schemas are a source of intrinsic motivation and are consistent with what Schein (1992) calls the basic assumptions (the deepest layers of culture). Attributional schemas are more conscious and visible (Bloor and Dawson, 1994: 277).

Bloor and Dawson propose looking at the process by which these new members are accommodated into existing organisational culture through the framework provided by Giddens (1979). He suggests it could be explained by the concepts of *signification*, *legitimation*, and *domination* (see Giddens, 1979).

Signification refers to the way in which *interpretive schemes* are learned through the process of socialisation, and consolidated or redefined through interaction with other organisational members (Van Maanen and Schein, 1979; Schein, 1992).

Legitimation and *domination* refer to the *political* process by which certain values, interests and goals become a part of the organisational culture. Important here is the extent to which dominant groups get their values and goals accepted as legitimate, rather than the extent to which they have been internalised by other groups.

The above processes must be taken into consideration when studying cultures in organisations. However, the precise nature of the mechanisms which lead to establishing the specific themes and features of cultures is not at the core of this thesis.

4.2.3 Manifestations of culture

In order to study cultures, researchers investigate cultures' manifestations. Martin (2002) provides descriptions of four different types of cultural manifestations: cultural forms (including rituals, organisational stories, jargon, humour, and physical arrangements); formal practices (such as pay schemes and hierarchical reporting); informal practices (such as norms); and content themes. The following paragraphs briefly summarise those forms (for examples and more extensive discussion see Martin (2002), Trice and Beyer (1984)).

Cultural forms such as rituals, stories, humour, jargon and physical arrangements have only fairly recently come to the researchers' attention. According to Martin until the 1980s they were largely absent from the studies (*ibid*: 65). Instead, the focus was predominantly on written or formal practices and quantitatively elicited espoused values of leaders and managers.

Rituals – are the celebration of the every-day life in organisations; mini 'dramas' (Trice and Beyer, 1984), as they are called, consisting of 'a carefully planned and executed set of activities, carried out in a social context (an audience), with well-demarcated beginnings and endings (like a play and well-defined roles for organizational members (like a script)' (Martin, 2002: 66).

Stories – are described by Martin *et al.*(1983) as not simply personal anecdotes known only to one person. They are narratives which focus on an event sequence and stem from the company's history. Stories are known by many employees and are indicators of cultural values and beliefs; formal and informal rules and procedures; the consequences of deviating from or complying with the rules; social categories, status and power structures of an organisation (Brown, 1998).

Jargon and language – One of the first manifestations of culture to be noticed by a newcomer is the often impenetrable specialist jargon and language which only insiders seem to comprehend (Clark, 1998). Martin (2002) distinguishes two types of jargon: technical and emotional (*ibid.*: 77). She argues that telling metaphors, symbols and values are conveyed through language. These could be a rich source of insights into organisational culture.

Physical arrangements. Physical arrangements are a different category of organisational manifestations. They share a common feature of being highly visible and include architecture, interior decor, corporate identity and dress norms. Sometimes they are described as the most superficial of all manifestations of organisational culture (Schein, 1992; Brown, 1998). According to Martin (2002) they could be a wealthy source of information about a culture. She suggests that more attention should be devoted to those forms when analysing organisational cultures (*ibid.*: 85). All cultural forms in Martin's view 'can provide important clues to what employees are thinking, believing and doing' (*ibid.*: 86). She adds that those forms are just beginning to be studied.

Formal and informal practices. Formal manifestations have been very often the primary focus of organisation research. Four types of formal practices have been of elevated importance to cultural researchers: structures, tasks and technology, rules and procedures and financial controls (*op. cit.*). Some of them, such as financial controls are often considered sensitive information and access to them is restricted. Informal practices take the form of social rules, and are not usually codified. There can be significant discrepancies between the formal rules and informal practices.

Content themes. In the words of Martin (1992), ‘content themes are common threads of concern that are seen as manifest in a subset of forms and practices’ (*ibid.*: 37). Content themes may take a cognitive form of beliefs or tacit assumptions or attitudinal form of values. Those could either be espoused – for example company’s ‘core values’ or inferred by a researcher from behaviour or other cultural manifestations. The former are according to Martin (2002) usually relatively superficial, the later reflect a deeper level of interpretation. Content themes can be more abstract or less abstract. More abstract themes will be present across organisational culture. The opposite can be said about the less abstract themes.

Summarising this brief review of different cultural expressions, it is important to mention the issue of the treatment of the depth of analysis. Schein (1992) famously proposed to see culture operating on three different levels: artefacts, espoused values and basic assumptions. In his view one is able to comprehend culture when one attempts to change it and only if able to reach the deepest levels of the very often unconscious *basic assumptions*. Martin (2002) and Gagliardi (1990) contest this view by arguing that culture does not only manifest itself imperfectly through artefacts but is in equal measure shaped by them. The difference in their understanding primarily lays in the insight and approach by the researcher. Martin (2002) believes that ‘cultural forms, such as stories, rituals, and physical arrangements (which are sometimes referred to as artifacts), are not necessarily more superficial or less important than deeply held assumptions [...] A cultural researcher should seek deep interpretations associated with each type of cultural manifestation’ (*ibid.*: 90).

4.3 Cultural studies framework

As has been mentioned previously, the multiplicity of definitions and ways of approaching studying cultures in organisations led Martin to develop a conceptual device which helps to structure the nature of the general inquiry. Based on the analysis of various examples of research projects she came up with an insightful framework categorising how the researchers of cultures in organisations approach their task (Martin, 1992). Her classification includes the following perspectives:

Integrative perspective – here the culture is seen by those who study it as primarily homogeneous. The ‘sharedness’ characteristic is underlined as a mark of the existence of culture. It focuses on those manifestations that have ‘mutually consistent interpretations’. Above all the culture is clear and non-ambiguous. The culture is like a ‘monolith’ seen by all the people identically (Martin, 2002: 94). Examples of this approach include: Deal and Kennedy, (1982), Peters and Waterman (1982), Barley (1983), Denison (1990), Kotter and Heskett (1992), Schein (1992).

Differentiation perspective – this line of investigation concentrates on the ‘subcultural’ level of inconsistencies within an organisation. From this perspective consensus is present in organisations but only at lower levels of analysis. As Martin (2002) writes, ‘within a subculture, all is clear; ambiguity is banished to the interstices between subcultures’ (*ibid.*:94). The ambiguity here resides outside subcultures. Exemplars include: Meyer (1982), Gregory (1983), Louis (1985), Barley (1986), Alvesson (1993a).

Fragmentation perspective – in this instance the ambiguity of the culture is seen as its core. In this perspective ‘consensus is transient and issue specific’ (Martin, 2002: 94). There are patterns of different interpretations and every time they are examined, depending on the situation, these patterns are different. Individuals are each given voice that could sometimes be descending, condescending or indifferent to what is happening in their organisation. ‘Sharedness’, on any level, if present at all, is to be seen as situated and temporary. Some of the studies espousing this approach are: March and Olsen (1976), Daft and Weick (1984), Meyerson (1990), Weick (1991), Alvesson (1993b).

4.3.1 Differentiation perspective – the unity on the subcultural level

Particularly significant from the point of view of this research is the approach and the consequences of the arguments made in the differentiation perspective. Here, various authors emphasise that in many organisations their employees perceive their culture to be unique whereas in fact there are very similar cultures present outside, in other organisations. In many circumstances it is the professional or occupational cultures residing independently from the organisation that give a strong identity and value base to the people involved.

Differentiation perspective is particularly suited to provide the link between professional culture and organisation. From this viewpoint, the unity and cohesion is delegated to the subcultural level. Occasionally, the ambiguities and inconsistencies are left outside of a subculture. In other circumstances they are being recognised and discussed as part of the analysis: ‘Differentiation studies, unlike integration studies, generally view differences, including inconsistencies as inseparable and desirable both descriptively and normatively’ (Martin, 2002: 102).

Differentiation studies occasionally engage a broader range of subcultures within the realm of a collective. These include managerial, professional, and various blue-collar based subcultures. Other classifications differentiate along occupations, functional or hierarchical lines.

The studied subcultures can be in a complex relationship with each other. Martin and Siehl (1983) have identified three distinct types of subcultures: enhancing (or reinforcing), counterculture (conflicting) and orthogonal (neutral). These were originally developed by Louis (1985) using oppositional thinking and their orientation with respect to top management. These have since been renamed by Martin and Siehl (1983: 53), as given above.

Enhancing subcultures. In this type of subculture, members amplify the preferences, values and views of the top management to an extent that they are present to a greater degree than in the rest of the organisation. Martin (1992) note that these are

usually the only kind of subcultures mentioned in *integration* research studies (*ibid.*: 89).

Countercultures. Countercultures are a direct threat to the dominant culture of an organisation (Brown, 1998: 86). They are the ‘pockets of resistance’ to the view of the top management or other dominant groups. Because the *differentiation* perspective is especially sensitive to the differences in power and conflicts of interest, countercultures are a common scenario which often re-appears in those studies (Martin, 1992: 90).

Orthogonal subcultures. Contrary to the countercultures, this type of subculture rarely features in *differentiation* studies (*op. cit.*). In this case the orientation of the subgroup is neutral towards the top managements’ values. As Brown (Brown, 1998: 86) writes ‘here individuals’ values subscribe to the core values and beliefs of the dominant organisational culture while simultaneously accepting a separate and unconflicting belief/value set.’

These types correspond to the potential relationship between occupational cultures and organisational cultures. Trice and Beyer (1991) offer three types of cultures which build on Martin and Siehl’s classification:

- occupational communities which dominate the organization
- cultures that accommodate themselves to one another, and
- occupational cultures being assimilated into, and dominated by, the organization (*ibid.*: 298)

4.3.2 Defining culture in differentiation perspective

A number of definitions from the Differentiation tradition have been analysed and reviewed by Martin (1992: 97-98). The centrality of this perspective to this research requires the presentation of at least some of those. Although there is no agreement amongst scholars with regards to the definition of culture from this stance, there are some common, distinguishing features found in their definitions:

- The cohesion or 'sharedness' is observed on the subcultural level rather than organisational:

Organizations are referred to as 'culture-bearing milieus' [...] The organization, vertical and horizontal slices, and other formal unit designations all represent typical sites in and through which cultures may develop [...] As such, they serve as breeding grounds, if you will, for the emergence of local shared meanings. (Louis, 1985: 75-79)

More researchers have emphasized the homogeneity of culture and its cohesive function than its divisive potential. This paper suggests, however, that many organizations are most accurately viewed as multicultural. Subgroups with different occupational, divisional, ethnic, or other cultures approach organizational interactions with their own meanings and senses of priorities. (Gregory, 1983: 359)

Only when members of a group assign similar meanings to facets of their situation can collectives devise, through interaction, unique responses to problems that later take on trappings of rule, ritual, and value. (Van Maanen and Barley, 1985: 34)

- Some definitions identify culture through its 'uniqueness' or 'distinctiveness' to a particular group of people. For example:

A set of understandings or meanings shared by a group of people. The meanings are largely tacit among members, are clearly relevant to a particular group, and are distinctive to the group. (Louis, 1985: 75)

A culture is conceptualized as a system of meanings that accompany the myriad of behaviours and practices recognized as distinct way of life. (Gregory, 1983: 364)

In a particular situation the set of meanings that evolves gives a group its own ethos, or distinctive character, which is expressed in patterns of belief (ideology), activity (norms and rituals), language and other symbolic forms through which organization members both create and sustain their view of the world and image of themselves in the world. The development of a world view with its shared understanding of group identity, purpose and direction are products of the unique history, personal interactions and environmental circumstances of the group. (Smircich, 1983: 56)

To summarise, differentiation studies define culture as that which is shared. The ‘sharing’ takes place on the subcultural level in line with seeing the group rather than the entire organisation as the centre of cohesion. This is also how this research defines culture.

4.3.3 Uniqueness paradox

Martin draws attention to the ‘uniqueness paradox’, as she calls it, in cultural studies. She cites several studies which found that what researchers and members of the studied organisations perceived to be unique was in fact present in a number of cases. For example, Bockus (1983) reviewed thirteen different qualitative case studies of the cultures of large firms. All of them had a subset of the same content themes found in Martin *et al.* (1988) content analysis of the annual reports of 100 large corporations (cited in Martin, 1992: 110).

Consequently, she asserts: ‘If culture is depicted as that which is unique, and if little is in fact unique, then there may be no such thing as organizational culture’ (*op. cit.*).

In an influential study Gregory (1983) investigated the occupational culture of programmers in ‘silicon valley’ in California. She noticed that programmers had a similar subculture in each of the organisations she studied. Her conclusion was that organisations do not have cultures. Rather an organisation is a meeting point of a number of occupational subcultures crossing organisational boundaries (*ibid.*:374).

There are a number of other scholars who similarly conclude that occupational or professional cultures are often stronger (and more coherent) than other groupings, due to having extra-organisational associations (Van Maanen and Barley, 1984; Trice and Beyer, 1991; Bloor and Dawson, 1994; Schein, 1996). I intend to return to this point but firstly the ramifications of the ‘uniqueness paradox’ need to be examined.

4.3.4 *Nexus approach*

The point is made that people do not leave cultural perspective at the gates of organisations, they enter with them and that this has an important bearing upon organisational perceptions. (Mills, 1988: 355)

In a response to the ambiguities and problems with regards to the ‘uniqueness’ or rather lack of it in organisational cultures, Martin proposes what she calls the ‘nexus approach’ to the study of culture (Martin, 1992: 112-114). A nexus occurs when a variety of internal and external influences come together and interact. She distinguishes between three types of cultural manifestations: manifestations that are truly unique; those that are acknowledged to be unique; and those that are falsely believed to be unique (see Figure 4.1). Every organisation has a combination of those and as she admits: ‘strictly speaking we should say “cultures in organisations” and not organizational culture’ (Martin, 2002: 164). This implies that one could tap into the non-unique manifestations of culture which are more closely linked with the external environment, i.e. professional cultures, and analyse those through their manifestations in organisations. The above approach does not assume that the different external influences are consistent with each other, nor does it prevent exploring the unique parts of an individual organisational culture.

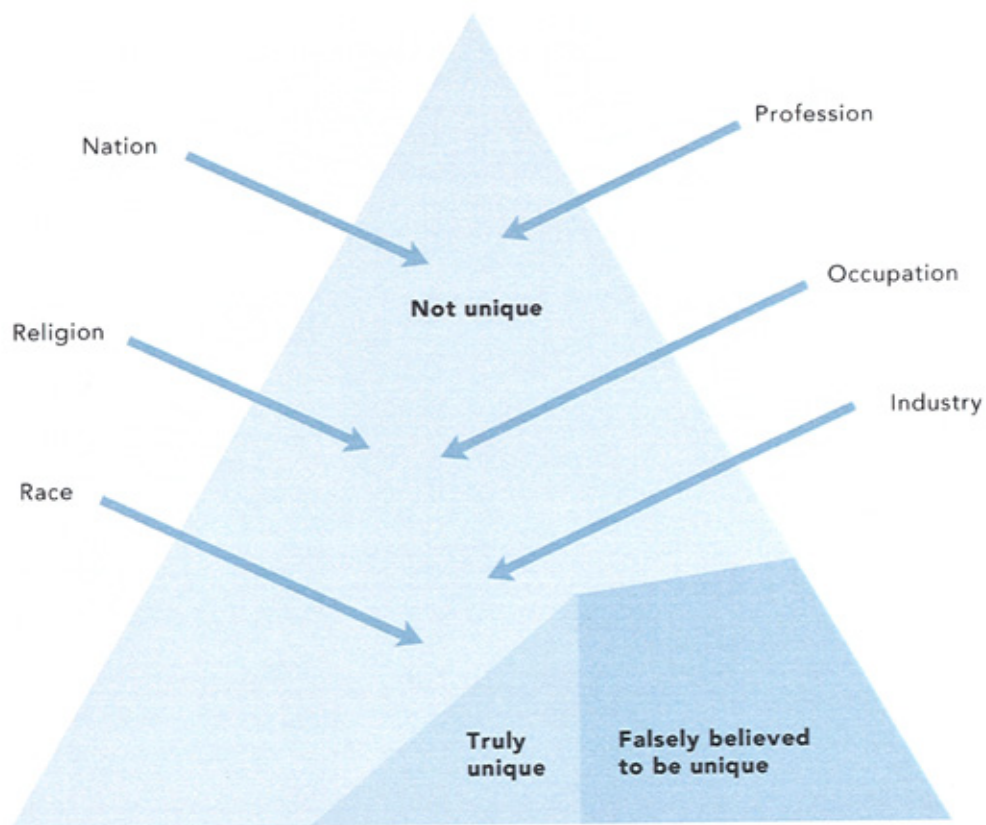


Figure 4.1 The Nexus Approach to Cultures in Organizations (source: Martin (1992: 112))

4.4 Professional and occupational cultures – definitions and conceptualisations

The prominent sociologist Emile Durkheim (1964) emphasised the importance of occupational life by suggesting that in societies, both nation states and work organisations are too far removed from individuals to offer them a sense of place, and that the institutions of traditional society, including family and religion, had become too weak to do so. Subsequently, he saw modern life concentrated more intensely around occupations.

Arguably, nowadays people are willing to define themselves more often through what they do as a part of an occupation or a profession rather than through the espoused values required of them in their organisational setting. If this assertion were to be accurate it would not be surprising that professions and occupations are

forming stronger and more coherent bounds than those of commercial organisations. One might reasonably expect to see people adhering more strongly to their professional cultures rather than their places of employment. Several factors could be brought to bear witness to this observation. Among these are: ever-increasing knowledge workers' mobility, flexible working systems adopted in organisations, loosely coupled organisations, company 'hopping' etc. It appears that employees tend to carry with them their sense of professional skill and pride and only after that the loyalty to the current employer. It can be argued, therefore, that what is unique in an organisational culture, especially in a company with one dominant profession will be increasingly difficult to develop and maintain. Instead, professions or occupations will be seen as 'carriers' of what is perceived as 'unique', but in fact, to a considerable extent is 'non-unique'.

Despite some general rejections of the term 'subculture', mainly on the basis of its negative historical connotation (Parker, 2000: 85), there is an agreement among scientists that professional, or occupational cultures have significant importance in relation to organisational cultures when compared to other type of subcultures (Gregory, 1983; Van Maanen and Barley, 1984; Trice and Beyer, 1991; Bloor and Dawson, 1994; Hofstede, 2001). Below are a few examples of the statements made by researchers when describing occupational and professional cultures:

Van Maanen and Barley (1984) state, that occupations are probably the most distinctive subcultures in organisational life. Once formed, professional groups develop not only different knowledge bases, but also different codes for constructing meaningful interpretations of persons, events, and objects commonly encountered in their professional world (*ibid.*). According to the authors, occupational community is: '[...] a group of people who consider themselves to be engaged in the same sort of work; who identify (more or less positively) with their work; who share with one another a set of values, norms and perspectives that apply to, but extend beyond, work related matters and whose social relationships merge the realms of work and leisure' (Van Maanen and Barley, 1984: 295).

Trice and Beyer (1991) note that well established occupations have cultures just as organisations do. Becher similarly argues that specialisms can be said to consist of a variety of basic components, having the character of their work and forming their own culture (Becher, 1981; 1990). Others, such as Dijk (1998), claim that professional communities are shaped by values with regard to their identities, boundary definitions of inclusion and exclusion, goals and objectives. In addition, Hansen believes that: 'Like national cultures, occupational subcultures, too, develop distinct languages or jargon that can reveal much about how members prioritise and interpret work responsibilities, processes, and relationships' (Hansen, 1995: 2).

There exist suggestions concerning the richness of the occupational culture constructs which allegedly results in difficulties relating to their identification. Hofstede (2001) places the occupational culture level halfway between national and organisational culture, in terms of the mix of values and practices as main acquisitions. His study asserts that occupational level was associated equally strongly with values and practices (*ibid.*: 414).

In the literature we find arguments which stipulate the strength of the position of professional subcultures in organisations:

Professional subcultures are often stronger than other groupings within an organization in the sense of having extra-organizational associations and peers to aid them in shaping new cultures and codes of conduct, and resisting the imposition of other cultural values and practices. In other words, professional cultures which reside outside organizations are central to sustaining professional subcultures within organizations' (Bloor and Dawson, 1994: 286).

Subsequently, the place of professionals within organisations can be a major determinant of the effects of the interplay of organisational and professional cultures (Bloor and Dawson, 1994: 281).

4.5 Researching professional cultures in organisations

Whereas the study of organisational culture has a long tradition, examples of the investigation into professional cultures and their impact on organisations are still relatively young. There has, however, been some progress made. Since Bloor and Dawson (1994) called for more research into professional cultures a number of studies have been carried out.

The research in occupational cultures is diverse and prolific (Hansen, 1995). It ranges from studies about *funeral directors* (Barley, 1983), *software engineers* (Gregory, 1983), *operators of power plants* (Von Meier, 2000), *home-care services* (Bloor and Dawson, 1994), *physiotherapists and occupational therapists* (Martin and Siehl, 1983), *doctors and clinical directors* (Thorne, 2000), *project managers* (Hodgson, 2002), *managers in general* (Watson, 2001).

Edgar Shein, who is by many researchers considered a father of organisational culture research, has despite his longstanding advocacy for cohesive and strong cultures recently acknowledged the importance of differences between subcultures within an organisation (Schein, 1996; Schein, 2004). In his paper Schein focussed on the alignment among organisational subcultures of executives (CEO and immediate subordinates), engineers (*designers* and technocrats who drive core technologies), and operators (line units). He suggested that the lack of alignment could be a probable cause of failures of organisational learning.

In a paper Boisnier and Chatman (2002) provided an analysis of the role of subcultures in agile, strong culture organisations. As a further research programme they suggest focussing on specific values or norms associated with the emergence of certain types of subcultures (*ibid*: 25).



Figure 4.2 Model of the relationship between professional cultures and an organisation

In a publication by Hofstede (2001), we find a reflection of the fact that there is a lack of frameworks for studying occupational cultures: 'Unlike for national and organizational cultures, I know of no broad cross-occupational study that allows us to identify dimensions of occupational cultures' (*ibid*: 414). He then goes on to stress that neither the five national culture (value) dimensions that he has developed, nor the six organizational culture (practices) dimensions will automatically apply to the occupational level.

Furthermore, Sackmann (1991) indicates that different dimensions may be suitable for different purposes. She suggests that dimensions should not be set a priori but should emerge empirically under a theoretical guidance.

The fact that there is no set and widely accepted theory with which to work inevitably leads this study to employ more open and explorative stance. This will be the subject of the next chapter where the methodological strategy and methods will be discussed.

One of the consequences of the above circumstances is the focus of this thesis on the professional design culture and not on individual organisational cultures of the studied organisations. The task is rather to concentrate on and elicit those characteristics which are ‘non-unique’ to an organisation but are common across the cases. Instead of trying to describe why a particular organisational culture is distinctive, the research aims to focus on those elements which are perceived to be describing the professional design culture.

In other words, the definitions and conceptualisations which underline the difficulties in setting firm boundaries around organisational cultures give rise to conceptual argument of tapping into individual companies in order to uncover the ‘streams’ of the culture of designers running through them.

It is therefore conceptualised that in order to analyse the professional culture of designers in an organisational setting one has to choose organisations where there is a clear and visible presence of designers – organisations where designers are the dominant subculture are expected to yield the adequate understanding of their culture at work.

4.6 Summary

Let me recapitulate what has been stated in this Chapter and what relationship this has with studying designers as a professional group in an organisation.

Firstly, a number of scholars believe that occupations and professions have cultures similar to those of organisation-wide groupings. This is taken as a premise to suggesting that designers as defined in Chapter 2 might also possess such a culture.

Secondly, the occupational or professional culture spans across organisations forming 'value' or 'meaning' bridges between individual companies. This fact gives rise to the suggestion that studying similar companies where a certain occupational culture is expected to be present is likely to provide suitable ground for observation of what is 'unique' and what is 'non-unique' in those cultures.

Thirdly, there will be a number of cultural manifestations which could potentially be a source of insights into the professional culture of designers.

Fourthly, occupational or professional cultures reside in or are part of an organisational culture and can be in an enhancing, orthogonal or countering relationship with the dominant culture. This knowledge enables the nature of the relationship between the design culture and the 'host' organisation to be established.

Fifthly, the lack of established and widely-accepted research frameworks for analysing occupational culture in organisations suggests that there exist no firm methodological grounds which could unequivocally indicate one dominant mode of research to be preferable.

Lastly, it is believed that analysing organisations predominantly comprised of a single profession can amplify and make more visible those values, beliefs and assumptions that are present in this profession.

This Chapter presented the ‘grounding’ of the research in organisational culture studies. It argued that, because of similarities and interdependencies, in order to access the professional culture of designers at work one needs to appreciate its relationship with the organisation. Subsequent parts of the Chapter presented a brief review of the current research in organisational studies and positioned this inquiry in the *differentiation* tradition which defines culture through a subcultural level. Furthermore, the outlook concerning professional cultures and their place in an organisation has been shown and was accompanied by a discussion of the issues concerning researching professional cultures in organisations.

Chapter Five – Methodology - epistemological frameworks and research strategy

5.1 Introduction

In order to explain the research philosophy, strategy, methods and techniques used in this thesis I will in this Chapter put those in context of how my research progressed. The Chapter briefly describes the chronology of the process of research in terms of the epistemological positions adopted and the resulting approaches and methods. It is my intention not to sanitise the process I have gone through by only presenting to the reader the final methods and strategies. Instead, I intend to be open about the early ambiguities and challenges involved in the choice of the overarching research methodology.

The Chapter first presents the early stance adopted in order to engage with the subject. It then explains the methodology that formed the basis of the main part of the research, which was also the final stage of the epistemological shift in the process of carrying out the research. The chapter closes with the outline of grounded theory which is at the methodological core of the study.

5.2 The initial research methods

Prior to the start of the research process, I had gone through five years of master's level management education. I now recognise that without a doubt and without questioning I had been indoctrinated into one research philosophy, namely positivism. This fact became apparent when in the process of research the limitations of this strategy prevented me from making satisfactory progress in my in-

depth understanding of the issues at hand. The initial and to a certain extent automatic choice of research method concentrated on doing a thorough literature review in the field of design and design management in order to build an understanding of what it was that I wanted to find out, and to prepare the framework within which the research would be carried out.

At the centre of the method was the application of the existing theory and theoretically-derived attributes of design in the process of comparing trained and experienced designers from the School of Design with management academics employed in the Newcastle Business School. The purpose of this exercise was to gauge the immediate response to the attributes by both groups and to use that response as a proxy for a perceived emotional investment in these attributes. The sources of data were both primary and secondary in nature and consisted of the evidence gathered from statistical analysis of questionnaires and the analysis of discussions within group interviews (Easterby-Smith *et al.*, 1991: 93).

5.2.1 *Secondary data sources*

The main source of secondary data was an extensive literature search and review that covered issues with respect to designers and their values, nature of design process, designerly ways of thinking and designers' role in organisations. The aim at this stage was to build a list of potential values and attributes that could form the basis for a contextualised framework that would substantially inform the subsequent primary data gathering process.

5.2.2 *The initial primary research method*

As a consequence of the predominantly positivist stance of the research I decided to use a quantitative questionnaire survey in conjunction with group interviews as the initial data collection method. Even though at that time I believed it was being done in the spirit of social constructivism (Crotty, 1998) and under the umbrella of the

case study method (Yin, 1994; Gillham, 2000), it was in fact led from a rather strong positivistic standpoint. Nevertheless, it appeared to me as the only 'legitimate' way of carrying out the research. As a means to partially balance out the impersonal and superficial understanding that would have been derived from the questionnaires I decided to use group interviews (Miles and Huberman, 1994). These were groups consisting of six to twelve people from both schools within the university. The other reason for choosing this method was that it provided relevant contexts and carried relatively low cost (Marshall and Rossman, 1999: 115). The exercise was viewed as a pilot stage and was designed to test both the appropriateness of the research method and to gauge the response of the participants.

The design of the questionnaire was based on the attributes derived from the literature presented in Chapter 3 and consisted of a number of points which can be found in the Appendix A.

5.2.3 Administering the survey and carrying out group interviews

Both the administering of the questionnaire survey and the group interviews took place simultaneously. The questionnaires were distributed at the beginning of each session. The participants were asked to complete them before moving on to a moderated interview. Each of these sessions was tape-recorded and later transcribed. The average time of the exercise varied between an hour and an hour and a half. It took place on the premises of the University in conference rooms between August and December 2002. The participants were asked to talk about each of the attributes listed in the questionnaire and talk about their understanding of the attribute and their emotional investment on the scale, which spanned from 'strong positive' (1) to 'strong negative' (5) emotional investment.

In the process of this research three groups from Northumbria University have taken part in the pilot - 27 people in total. The first group represented the Centre for Design Research (CfDR) from the School of Design. 13 people returned completed questionnaires. 11 participants declared design as their professional domain, two

declared management/organisation studies. In this group there were eight researchers, two professional consultants and three managers.

The second group interviewed consisted entirely of the School of Design teaching staff. Eight people returned questionnaires and took part in the discussion. Seven were design teachers, one indicated 'design manager' as their leading role.

The third group interview was composed of Northumbria Business School (NBS) staff. There were six participants of the group interview, all of whom handed in completed questionnaires. Among them were three teachers, two managers and one researcher.

5.2.4 Analysing the questionnaire

In order to find out more about any significant differences between designers and managers in terms of their emotional attachments to the attributes listed in the questionnaire I decided to test the hypothesis using non-parametric Mann-Whitney U test. The reasons for that were that the distribution of the variables was not known, there were two independent samples involved and the numbers of questionnaires were not high enough to grant the use of parametric statistical tests. The significance level was set at 5% ($\alpha = 0,05$). The null (H_0) hypotheses and alternative (H_1) hypotheses were defined as: H_0 : The two samples come from the same population H_1 : The two samples come from different populations⁴.

5.2.5 Reflections on the questionnaire and group interviews

During the process of conducting group interviews and reflecting on the nature of the attributes and the questions from the questionnaire, it became clear that it was difficult for the participants to reach the consensus around the basic understanding

⁴ For more information about the outcomes of this exercise please refer to Appendix B

of the issues involved. This, in retrospect, does not come as a surprise since the assumptions and the nature of the research were based on the positivist paradigm that led to the development of methodology which tried unknowingly to steer the responses into pre-defined categories. The participants expressed their concerns about not being provided with sufficient explanations of the attributes prior to the exercise and also were worried about the many subtleties they were not able to explain in the survey. These problems were only partially addressed by the subsequent group interviews due to the time constraints and the strength of the pre-existing definitions derived from the literature search.

The way in which I tried to judge the findings was closely aligned with measures such as validity, adherence to statistical rules and generalisability. I was concerned with making the outcome as transparent and objective as possible. At the same time I was portraying this pilot study as a piece of interpretivist research where I as a researcher was constructing the reality drawing upon my own axiology. It is now apparent to me that, despite these claims, I was actually forcing my interpretation onto the participants sense-making process. In this process I used tools which might have been associated with both very objectivist and subjectivist research methods. However, I used them in a way that closed off disagreement among participants and focused on consensus finding at the expense of deeper, participants-driven knowledge construction.

5.3 Epistemological shift – in search of paradigmatic anchors

At this stage of the research process not only did it become evident that addressing the research questions in this particular way would not yield meaningful and quality results, but it would also conflict with my personal need to conduct a thorough, novel and in-depth study. This turned out to be a pivotal period in my research, where I had to confront many of my personal values and beliefs. I had to decide whether I wanted to succumb to the dominant (in management research) positivist paradigm, which concentrates on existing definitions, is detached from the object of the study and claims to be value-free (Crotty, 1998); or whether I should follow my

instinct and engage in a much more intimate process where the interaction between the object of the study is much more transparent and personal. The choice was not easy since the majority of my academic life was spent in an environment where detachment and objectivism were seen as 'scientific' and the only way that was 'truly legitimate'.

5.3.1 Epistemological choices of the research

Without going too deep into a philosophical debate for which there is only limited space in this thesis, it is important to outline the major positions in research between which the choice had to be made.

The epistemological position of a researcher is embedded in an ontological stance about the nature of reality and deals with the question in respect to what can be considered as acceptable knowledge. Morgan and Smircich (1980) propose a continuum of six distinct ontological assumptions on the nature of reality. The two extremes are the subjective and objective view of the world (Figure 5.1).

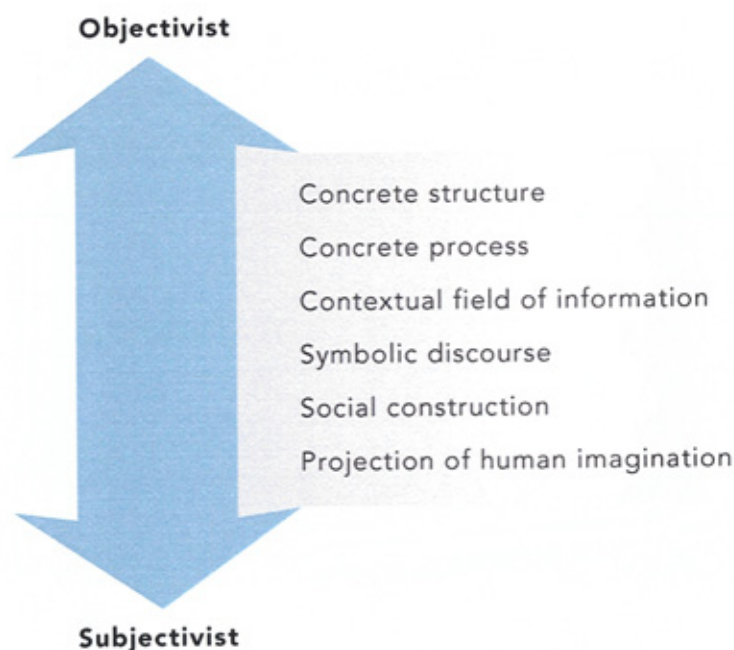


Figure 5.1 Different assumptions about the nature of reality in management research (after Morgan and Smircich, 1980)

Another ontological classification variant is presented by Burrell and Morgan (1979). In their interpretation, the researcher has the choice between individual consciousness and external reality. Essentially, as it is summarised by Easterby-Smith *et al.* (1991), these are two polar extremes representing paradigms of positivism and phenomenology. This angle of looking at the spectrum of research assumptions removes the legitimacy of the claim that significant knowledge is solely derived from the use of objective measures (*ibid.*: 25). Easterby-Smith *et al.* present a basic classification of ideal-typical paradigms based on Morgan's (1979) introduction of the three levels within research paradigms. Table 5.1 depicts this framework.

	Positivist paradigm	Phenomenological paradigm
<i>Basic beliefs:</i>	The world is external and objective Observer is independent Science is value-free	The world is socially constructed and subjective Observer is part of what is observed Science is driven by human interests
<i>Researcher should:</i>	Focus on facts Look for causality and fundamental laws Reduce phenomena to simplest elements Formulate hypotheses and then test them	Focus on meanings Try to understand what is happening Look at the totality of each situation Develop ideas through induction from data
<i>Preferred methods:</i>	Operationalising concepts so that they can be measured Taking large samples	Using multiple methods to establish different views of phenomena Small samples investigated in depth or over time

Table 5.1 Key features of positivist and phenomenological research paradigms (source: Easterby-Smith *et al.*, 1991: 27)

These two paradigmatic positions have been somewhat exaggerated in terms of their actual use. As Easterby-Smith *et al.* note, the reality both in terms of the paradigmatic transgression of management research practice and philosophers' unwillingness to accept all of the above aspects on either side is much more common (*ibid.*: 22). Nevertheless, it is important to present these as a context within which decisions about the philosophical underpinnings of any organisational research are being made.

Arguably the backlash against the strong position of positivism in social sciences was a consequence of the two main assumptions: firstly, that reality (including social reality) is external and objective; secondly, that knowledge is only significant when 'it is based on observations of this external reality' (Easterby-Smith *et al.*, 1991: 22).

There are a number of implications stemming from these assumptions:

- The observer is detached and independent of what is being studied.
- The research is value-free – researcher's beliefs and values can be omitted because the criteria are external and objective.
- The main aim is to identify causal relationship between variables that would lead to development of fundamental laws and explanation of regularities in social behaviour.
- Progress in social sciences research is based on building hypotheses and testing them by deduction.
- Ideas and problems are best studied in their basic form which enables precise operationalisation and measurement.
- In order to generalise about human behaviour research has to operate on samples of sufficient size.
- Regularities can be most appropriately identified by comparing variations across samples (after Easterby-Smith *et al.*, 1991).

In response to this framework, or as Kuhn (1962) would have called it, 'paradigm', a number of alternatives appeared. The common theme running through most of these was the assumption that world and 'reality' are not objective, but are rather constructed and given meaning by people. As has been mentioned earlier, these alternatives have been taken under the conceptual umbrella of 'phenomenology' (Easterby-Smith *et al.*, 1991). Some examples of those include social constructionism (Berger and Luckman, 1966), qualitative methodology (Taylor and Bogdan, 1984), naturalistic inquiry (Lincoln and Guba, 1986) and 'new paradigm' inquiry (Reason and Rowan, 1981).

In the case of phenomenology the point of departure is the assumption that reality is socially constructed and not objectively determined. Consequently, social scientists (including organisational researchers) should focus on various meanings people give

their experiences rather than concentrate on measuring the occurrence of patterns relating to collectable facts.

This view is consistent with studying the culture as an emergent social phenomenon, rather than measuring the response to theoretically-derived categories. Addressing the issues of this research from the perspective of phenomenology seemed to be much closer to my own perception of reality and the pursuit of high-quality results I had in mind. Finding out about the continuum of alternatives to positivism gave me a much needed theoretic-philosophical grounding upon which I could build the core of my research.

5.3.2 Current discussion on paradigms in management research

The exercise of deciding upon the appropriate paradigm within which to operate is not an easy task in management research. Even today, more than a century after the field started to grow, there is an ongoing argument as to the most adequate foundation in that respect (Hatchuel, 2005). There is a considerable difference between the success of modern management in building a solid place in popular culture and its failure to gain academic credibility (*ibid*: 36). The criticism of organisational research is being debated on three levels: the lack of clear scientific unity which results in the ‘paradigm wars’, its lack of actionability, often referred to as the ‘relevance gap’, and the limited efficiency of its educational institutions’ curricula and delivery (*op. cit.*). It has been suggested that throughout its history, management research has borrowed heavily from social sciences but ‘has given little back’ (Pettigrew, 2001: 64).

As part of the strand relating to the relevance of organisational research and related to epistemological underpinnings and modes of knowledge generation, important contribution has been made by number of scholars. Tranfield and Starkey (1998), drawing from Gibbons *et al.*’s (1994) taxonomy of knowledge production systems, suggest refocusing the management research agenda on a mode 2 type of engagement. The authors state that: ‘Probably the most striking feature on which

there is consensus within the discipline is that management research operates no single agreed ontological or epistemological paradigm' (Tranfield and Starkey, 1998: 345). Tranfield and Starkey develop an argument in which they contrast mode 1 type of research with mode 2, with a preference on the latter. Briefly, mode 1 is characterised by '[...] a distinction between what is fundamental and what is applied; this implies an operational distinction between a theoretical core and other areas of knowledge such as the engineering sciences where the theoretical insights are translated into applications' (Gibbons *et al.*, 1994: 19); it follows a model whereby knowledge is predominantly a result of an academic agenda, it is bound to specific disciplines and is protected by elites in academic institutions where its validity criteria reside (Tranfield and Starkey, 1998). Mode 2, on the other hand, is trans-disciplinary, with an important 'teamwork' component; immediate when it comes to application; encourages on-the-spot theorising; is a 'socially dispersed form of knowledge production' often involving groups beyond academic institutions' (*ibid.*: 348). Tranfield and Starkey's proposition to align management research to mode 2 has been challenged by several prominent researchers. Anne Sigismund Huff criticised this approach and proposed an alternative mode 1.5 (Huff, 2000: 292) which she subsequently reframed as mode 3 (Huff and Huff, 2001). Her argument was based on three assumptions:

1. Continued usefulness of disciplinary knowledge and theoretical models where mode 2 research is not desirable or not possible.
2. Those research institutions that are sheltered from the need to generate significant income from their knowledge production activities, can produce 'public goods' that companies or consultants cannot credibly produce.
3. Business schools have the capacity to create more synthetic knowledge through the facilitation of the diverse interaction between individuals with business, consulting, public and university experience (*op. cit.*).

Weick (2001), in response to Starkey and Madan (2001), suggested that, instead of seeing mode 1 as a problem and mode 2 as a solution, one should look at the nature of knowledge generated and the role of a university in society. He argued that 'if the university continues to stand for wisdom rather than a vocation, character rather

than technicalities, and mindfulness rather than rationality, then it will remain a strong partner in a Mode 2 alliance and foster richer definition of the 'context of application' (Weick, 2001a: 74).

This dismissal of adopting mode 2 by management researchers in academic institutions is echoed in a recent paper by Hatchuel (2005) who proposes that instead of debating the epistemological issues from the point of view of 'truth' these should be looked at from the point of view of 'collective action'. By doing this he refocuses the attention on 'action' as the 'unknown and mysterious category' and not as an 'obvious universal' (*ibid.*: 37). In his view this does not mean that academic research in management should turn to pragmatic epistemology as some have suggested (Wicks and Freeman, 1998; Aram and Salipante Jr, 2003), but rather 'action' and 'actionability' be the focus of theoretical attention (*op. cit.*). Hatchuel questions the framework of paradigms for organisational theory where two dimensions are defined as 'subjective/objective' and 'regulation/radical change' (Burrell, 2002). He believes that the latter is a gross oversimplification of theory of action and should not be approached axiomatically by management research but debated in detail as a phenomenon in itself.

This brief discussion around different ontological and epistemological points in management research helps to sketch the outline of the particularly difficult to negotiate landscape. By no means does it encompass the full debate, which in itself could become a major theme for another doctoral thesis. From the point of view of my research, it is important to mention at this stage the inherent relationship between the central issues concerning the epistemological position of management research in general and the object of this study.

It has been suggested that 'science of design' as a theoretical and philosophical underpinning might, in certain circumstances, perform the unique role of a useful research framework in organisation studies (Romme, 2003a; Van Aken, 2004). I intend to come back to that point later in the thesis. At this stage, however, I must stress the importance of my role as a researcher who is ultimately responsible for the result of their work. In that sense I have to deal with three major difficulties. Firstly,

the field of organisational research is polarised when it comes to the choice of ontological and epistemological stance and in itself is still evolving (Hatchuel, 2005). Secondly, the research question relating to design and designers and their place in organisations is intertwined with the actual debate about the *very nature* of management research. Thirdly, the academic field of design and the nature of design profession are subjects of a very vibrant debate themselves. These circumstances provide a very rich but also challenging research landscape. This is probably one of the strongest arguments that suggest to me engaging with the study in a way that would make use of my interpretivist powers. It also renders defending an objectivist, detached stance problematic if not impossible. The isolation and operationalisation of the ‘variables’ involved would inevitably prove extremely difficult since the core of the research is very context-specific and is additionally closely linked with the actual debate about the way in which the research in management could or should be conducted. It seems to me that the only viable and feasible option in these circumstances is to be very vigilant and reflective with respect to both the process of research and the actual findings. ‘Hiding behind’ neatly created *ex-ante* categories or relying on very patchy literature cannot be the *modus operandi* of this study.

I could state at this point that having studied those philosophical issues and having acknowledged that the discussion on those issues is on-going I committed myself to abandoning my ‘safe’, primarily positivistic position. I became clear that if I wanted to make any sense whatsoever of the data and the situation around me I would have to abandon the view in which the world is perceived as objective and the knowledge is only valid when detached from my value judgements. It was simply no longer feasible or sustainable both intellectually and psychologically.

In addition, the fact that prior to the shift I had been embedded in an ‘alien culture’ of design professionals and academics and where I had been carrying out what some might describe as an ethnographic study (Dobbert, 1982) had a profound impact on the consequent decision in a sense that the environment around me was too rich and complex to justify analysing it with preconceived notions about it. Eventually I decided to engage in a more demanding, less structured, less certain and more risky way to carry out the research. I did that by consciously moving away from positivism

and adopting an approach which takes into account the fact that reality is socially constructed, it may vary across individuals and where the researcher is an integral part of the process and is not emotionally and motivationally detached from the subject of the study.

5.4 Searching for an appropriate framework to study designers in organisations

In a publication by Geert Hofstede, we find a reflection on the fact that there is a lack of frameworks for studying occupational cultures. He states: 'Unlike for national and organizational cultures, I know of no broad cross-occupational study that allows us to identify dimensions of occupational cultures' (Hofstede, 2001: 414). The author proceeds to stress that neither the five national culture dimensions that he has developed, nor the six organizational culture dimensions, will automatically apply to the occupational level. Additionally, Sonja Sackmann indicates that different dimensions may be suitable for different purposes. She suggests that dimensions should not be set *a priori* but should emerge empirically under theoretical guidance (Sackmann, 1991).

The exploratory nature of this research is thus a consequence of (a) my initial disappointment with the inadequacies of the qualitative, primarily positivist methodology employed in the initial stages of the research that treated the culture as an object detached from the observer, (b) the research question that deals with the nature of the cultural values and constructs and (c) the lack of agreed theoretical frameworks. As suggested in the literature, such circumstances point towards employing an inductive rather than deductive research strategy (Easterby-Smith *et al.*, 1991; Sackmann, 1991; Miles and Huberman, 1994).

5.4.1 *Grounded theory – the overarching research strategy*

In an attempt to make sense of the situation and to give my research a more ‘structured’ approach, which I suppose was a consequence of my early positivist roots, I engaged in a process of choosing an appropriate research strategy under the philosophical stance of social constructionism. There were a number of options available.

In the epistemological debate I briefly described in earlier sections, I mentioned what several authors suggest should be taken more seriously in management research. Mode 2 research, which stresses the importance of the interaction between the studied and the studying, in the process of knowledge creation, and has a number of research methods associated with it. A number of examples of those methods have been identified and analysed from the point of view of the features of mode 2 research. The methods mentioned were: action research, clinical studies, cooperative inquiry and grounded theory (MacLean, MacIntosh *et al.*, 2002). Almost out of hand the first three can be dismissed due to the nature of my research and circumstances surrounding it. Firstly, action research requires an involvement with an organisation over a genuine concern, where there is the intent to take action as a part of the intervention (Eden and Huxham, 1996). Clearly, there has not been such a situation in my case. Secondly, in Schein’s clinical method (1987; 2001) the research is initiated by the organisation and the researcher is subsequently called in as a ‘clinician’ with the task to assess the state of it and to help with an appropriate remedy. It is apparent that this was also not the case. Thirdly, co-operative inquiry being a variant of action research focused on group-based approach where all people involved act simultaneously as ‘co-researchers and co-subjects’ (Heron and Reason, 2001), is not suitable for this particular piece of research.

The one remaining research strategy appeared to be particularly suitable for theory-building, as opposed to theory-testing approach in the context described earlier. Grounded theory, originally developed by Glaser and Strauss (1967), follows an interpretative framework which concentrates on eliciting meaning from empirical data and follows the post-positivism tradition (Guba and Lincoln, 1994). This

strategy aims to support researchers in an attempt to ‘codify and publish their own methods for generating theory’ (Glaser and Strauss, 1967: 8). The primary intention, in this instance, is to give guidelines that support the highly personal, iterative procedure of conceptualising and formulating theories. Using one’s own insight, ‘theoretical sensitivity’ (Glaser and Strauss, 1967; Glaser, 1978) and knowledge from an area of research are all vital elements of this strategy. In grounded theory the design decisions about the research planning process are not pre-determined but are constructed alongside the emerging theoretical picture. The two cornerstones of the procedure are ‘theoretical sampling’, where the data collection process is guided by the emerging theory, and ‘constant comparison’ method of iterating between data coding and analysis. This aims to ensure that the consequent theorising has its grounds to a greater extent in the data rather than being induced from the existing literature or imposed by the researcher’s prior knowledge. This is not to say that prior knowledge of theory in the field is not important. As the authors argue, it is impossible not to be informed and affected by what researchers read and experience.

Grounded theory is an interpretivist mode of enquiry with roots in symbolic interactionism (Goulding, 2002). This allows for the input such as discourse, actions, expressions and gestures which are all treated as central to the experience. This is in line with the nature of the research that is largely experiential. As a result it would be difficult to defend the choice of methodologies such as phenomenology which depend almost entirely on descriptive accounts. (*op. cit.*). In addition, grounded theory allows for much broadened scope of data, which includes sources such as internal reports or various forms of secondary data, including statistics (Goulding, 2002: 44).

It is now recognised that there are two alternative approaches to the research strategy of grounded theory, one developed by Glaser and Strauss in 1967 and the other championed later on by Strauss (Goulding, 2002: 46). In the course of the development, or as Locke argues ‘rewriting’ (Locke, 1996) of grounded theory, Strauss and Corbin opted for a more structured, step-by-step technique (Strauss and Corbin, 1990). Despite earlier advocacy by Glaser and Strauss for open-mindedness and ‘stimulating rather than freezing thinking’ (Glaser and Strauss, 1967: 9), more

recent contributions by Strauss present grounded theory as a set of formalised techniques. Under this approach the coding process is divided into three stages. These include 'open coding', where data are fragmented and preliminary codes are assigned; 'axial coding' whereby data are reassembled; and finally 'selective coding' by means of which the core category is selected and related to other categories (Strauss and Corbin, 1990). At the centre of the Strauss and Corbin method lays the 'paradigm model' (*ibid*: 99). It consists of systematised cause-and-effect schema which the researcher uses to explain relationships between categories and subcategories. We also find analytical devices such as 'conditional paths' or 'conditional matrixes' in Strauss and Corbin's approach. There is, however, a downside to this detailed framework. According to Partington, this 'bewildering complexity' has in management research practice resulted in a great difficulty to closely following this 'technique' (Partington, 2000: 95). As a consequence, he claims, grounded theory is being followed in a 'loose, non-rigid, non-specifiable fashion which inevitably draws it back towards the original version' (*ibid*: 95). Subsequently, this study acknowledges this assertion and builds on Glaser and Strauss's original spirit of theoretical discovery, and does not follow Straus and Corbin's highly formulaic method, as this would be seen as a return to the structural and conceptual rigidities present in more objectivist research strategies.

Additionally, this research adopts Robson's view that: 'Grounded theory is both a strategy for doing research and a particular style of analysing the data arising from that research' (Robson, 2002: 191).

- Grounded theory is a methodology that focuses first and foremost on theory testing rather than theory building. Taking into consideration the lack of accepted frameworks for researching occupational/professional cultures and the complexity of the subject matter, an inductive approach which enabled theory to emerge from the accounts of managers and designers as well as my own experiences appeared the most appropriate.
- It has been successfully used in similar projects. Thorne (2000) used a variation of grounded theory in order to capture the emerging occupational culture of clinical directors in the NHS. Her study also juxtaposed the emerging culture of clinical directors with the managerial culture in the NHS (*ibid*). In another study, Hodgson (2002) critically examined the construction of project management as a professional discipline using case study method with elements of grounded theory. Root (2001) investigated the influence of professional and occupational cultures on project relationships mediated through standard forms and conditions of contract using four case studies and a grounded theory method. Strong parallels exist between these three examples and the study at hand.
- Due to its established outlines for conducting research and for analysing the data, grounded theory provides a degree of security and gives interpretive enquiry a pronounced shape and a more defined structure. Whilst ensuring a level of control over a research process it remains an interpretivist mode with roots in symbolic interactionism where gestures, expressions, actions and discourse all are considered primary to the experience. My research deals with a complex subject matter and a very rich process which has seen me engage in observations and interactions and thus calls for a method that would encapsulate all of the above as legitimate pieces of data.
- It is a methodology which encourages creativity in the course of the analytical process. This respects what I believe should be the role of a researcher in a novel and multidimensional setting. As the research is positioned between a number of theoretical fields such as design management, cultural studies, organisational design, organisational theory and management education it is crucial to use a framework that is be sympathetic towards creatively using many different theoretical strands.

Table 5.2 Summary of reasons behind choosing the methodology

5.5 Summary

This Chapter has summarised my epistemological migration from the position of an unwittingly positivistic stance to the paradigm of interpretivism. The first part discussed the initial stage which involved a survey questionnaire and group interviews with theoretically predefined categories. Subsequently, the Chapter showed my methodological evolution which made me realise this philosophical approach was not adequate either in terms of the inadequacies of the current theoretical underpinnings or my personal preferences stemming from the need to address more substantial issues of the professional design culture.

The Chapter then identified Glaser's variant of grounded theory as the overarching methodological strategy for the study. The facts which had the greatest gravity with respect to the choice of this methodology included: a) the fluid and complex nature of the studied phenomena; b) the lack of a clear suggestion present in the literature on the occupational cultures pointing to a widely accepted method; c) grounded theory's inductive, theory-building nature; d) its roots in symbolic interactionism allowing for a number of contextual data inputs; e) its creative-analytical nature which encourages the researcher to use his or her interpretivist powers and finally; f) some evidence suggesting successful application of this methodology to research problems corresponding with the one present in this study.

Chapter Six – Method of data gathering and analysis

6.1 Introduction

The previous Chapter introduced the epistemological stance adopted for this study and engaged in broader methodological issues. This Chapter is a continuation of this discussion and puts more emphasis on the technical aspects of primary data collection and analysis. It discusses the choice of research sites and sampling criteria. Furthermore, the Chapter explains the analytical process of identifying cultural categories and the use of interviews and specialised software.

6.2 Data gathering and analysis procedures

In order to reach an understanding using grounded theory, one needs to engage in a process of constant comparison. This relates not only to comparing different statements made by the participants of the process but also the reflective dialogue that goes on inside researcher's mind. Improving understanding, making connections, synthesising and analysing often take place concurrently. Grounded theory, in Strauss and Corbin's (1990) variant, calls for very detailed and formulaic technique of eliciting meanings. As has been mentioned in the previous Chapter, it advocates a structured procedure which, some think, makes the process more positivistic and over-engineered (Goulding, 2002). This becomes particularly apparent when we consider a point of view of the real purpose of this method which is to engage in a deep-felt process of creative-analytical sense-making (Glaser, 1978).

Under the above approach, coding process is divided into three stages. These include 'open coding', where data are fragmented and preliminary codes are assigned; 'axial coding' whereby data are reassembled; and finally 'selective coding' by means of which the core category is selected and related to other categories (Strauss and Corbin, 1990). In the centre of the Strauss and Corbin method lays the 'paradigm model' (*ibid.*: 99). It consists of systematised cause-and-effect schema which the researcher uses to explain relationships between categories and subcategories. This scheme has informed the process of analysis but was not rigidly adhered to. As Glaser (1992) notes this kind of inflexible and structured process goes against the very soul of grounded theory where a researcher using his or her theoretical sensitivity interprets the reality encountered. He states that in Strauss and Corbin's method are 'so many rules, strictures, dictums and models to follow one can only get lost in trying to figure it out' (*ibid.*: 104). When discussing the forcing of data versus the original intention of theory emergence, Glaser writes:

If you torture the data enough it will give up! This is the underlying approach in the forcing preconceptions of full conceptual description. The data is not allowed to speak for itself, as in grounded theory, and to be heard from infrequently it has to scream. Forcing by preconception constantly derails it from relevance. (Glaser, 1992: 123)

There are other authors who share a similar view. For example Melia (1996) argues that Strauss and Corbin's model is focused more on verification and description rather than discovery. She believes it is overly formulistic, and problematic with regard to the emphasis it places on single incidents and its lack of attention devoted to saturation and theoretical sensitivity. Her view is that it goes too far with the introduction of a plethora of categories, subcategories, properties and dimensions and the creation of too many rules. The following passage captures these criticisms in Glaser's own words:

Strauss' method of labelling and then grouping is totally unnecessary, laborious and is a waste of time. Using constant comparison method gets the analyst to the desired conceptual power, quickly, with ease and joy. Categories emerge

upon comparison and properties emerge upon more comparison. And that is all there is to it. (Glaser, 1992: 43)

As discussed previously it is now acknowledged that there are significant differences in versions of grounded theory advocated by the two original authors (Goulding, 2002). It appears to be common for researchers using the approach to specify which model was adopted, the Glaser or the Strauss and Corbin version (*ibid.*). In the case of my research, data were gathered using Glaser's description of the method with the emphasis on theoretical sensitivity and emergence (Glaser, 1978; 1992). As a result, some of the techniques associated with Strauss and Corbin's procedure, such as the continual use of the conditional matrix, do not constitute the core of my analytical process. However, the basic underlying principles of open coding, axial coding, theoretical sampling and theoretical emergence remain crucial to this investigation.

6.2.1 Interviewing in grounded theory

In order to assist in the grounded theory process various authors suggest using in-depth interviews as a useful technique for addressing individual experiences (Goulding, 2002; Charmaz, 2003). It is said that at this stage of the research no preconceived opinions or interpretations should be allowed to skew the investigative process (Glaser and Strauss, 1967; Glaser, 1978; 1992). This notwithstanding, it is very difficult if not impossible to avoid earlier conceptual 'contamination' (Charmaz, 2003). However, in the constructivist variant of grounded theory it is particularly important for the researcher to remain open in terms of the direction and structure of the interviews in order to avoid 'forcing' emerging concepts into existing categories (Glaser, 1978).

The goal of interviewing in the interpretivist paradigm, within which grounded theory is positioned, is to understand how individuals construct meaning and to uncover their personal belief systems and values. There are a number of advantages of using in-depth qualitative interviewing with grounded theory approach (Charmaz, 2003: 312). Firstly, an interviewer is in a position of more control over the data

gathering process than is a researcher using other methods such as textual analysis or ethnography. This gives researchers more analytic control over their material. Secondly, qualitative interviewing offers in-depth exploration of an aspect of the interviewee's life of which he or she has a significant experience and insight. Thirdly, interviewing is an emergent technique giving flexibility in terms of opening up and pursuing new and unexpected leads. In its specific form, grounded theory interviews are different from in-depth, open-ended interviews in the sense that they narrow the spectrum of the interview topics in order to gather data to inform specific theoretical frameworks. Charmaz (2003) writes:

A grounded theory interview can be viewed as an unfolding story. It is emergent although studied and shaped. It is open-ended but framed and focused. It is intense in content, yet informal in execution – conversational in style but not casual in meaning. (*ibid.*: 326)

(A sample of the early questions used to structure the interviews can be found in Appendix D)

6.2.2 Unit of analysis and sampling criteria

The logic behind sampling in case studies and grounded theory is different from statistical sampling. It involves 'theoretical sampling', in which the goal is to choose cases that are likely to replicate or extend the emergent theory or to fill theoretical categories and provide examples for polar types (Glaser and Strauss, 1967; Eisenhardt, 1989; Goulding, 2002). Qualitative sampling is primarily concerned with representatives, it seeks information richness and selects the cases purposefully rather than randomly (Gillham, 2000; Meyer, 2001). The aim here is not to provide a representative sample but rather a sample which is conducive to discovering more about the issues at hand.

Following these guidelines, the choice of sites and individual subjects was dictated by the purposeful sampling strategy, based on the extreme exemplary case approach. In

order to investigate the subject, the ‘most saturated’ cases were identified, in other words organisations where it was anticipated professional designers would have been widely and notably present. The scope of researchable sites was chosen based on a number of additional, more explicit criteria: (a) their current exceptional reputation amongst designers and management professionals; (b) the extent to which these companies had been studied and used as exemplars in quality publications in the area of design and management; (c) their respectable industry positions; (d) history of successes as measured by the number of design awards and business performance; (e) my own perception of the importance placed on designers internally.

In addition to these conditions the research followed Marshall and Rossman’s advice concerning a ‘realistic site’ and adhered to the following criteria: (a) possible entry; (b) a high probability that a rich mix of processes, people interactions of interest are present; (c) likelihood that the researcher is able to build trusting relationships; (d) data quality and credibility (Marshall and Rossman, 1999: 69).

Subsequently, representatives from four companies were chosen to be used under the methodological framework of grounded theory. These corporations included: IDEO, Philips Design (PD), Nissan Design (ND) and Wolff Olins (WO). Making use of an exclusive but not unlimited degree of access to these organisations, interviewing based on a semi-structured interview technique was carried out (Miles and Huberman, 1994; Charmaz, 2003). For the purpose of this thesis, in order to build a picture of the culture of designers, the unit of analysis was not a single organisation but rather a chosen sub-culture. In this sense the approach does not contradict the theoretical sampling criteria of grounded theory approach. In terms of the profile of participants taking part in this study these have been: general managers, senior designers, design managers, consultants and one influential design management entrepreneur. Nine of them have been trained and educated in the tradition of either industrial design or interaction design. Three have undertaken management education, one was educated in experimental psychology and computer sciences and another was an historian and a self-taught manager-entrepreneur.

In total, there were 15 in-depth interviews with 14 different people carried out. They took place between June 2003 and November 2004. The duration of those interviews ranged from 40 minutes to two-and-a-half hours. All have been audio-recorded and transcribed word-for-word. Together they generated approximately 130 thousand words of verbatim transcripts (examples of full transcripts can be found in Appendices E and F). Table 6.1 presents the summary of the interviews that took place in the course of this study.

Organisation	Profile	Data Sources
IDEO	Design consultancy	<i>3 Interviews:</i> General Manager (UK branch), Senior Manager, Senior Commercial Partner
Wolff Olins	Strategic Design Consultancy	<i>6 Interviews:</i> Co-founder (twice), 3 Senior Consultants, Junior Consultant
Nissan Design	Specialised In-House Design Consultancy	<i>2 Interviews:</i> General Manager, Senior Designer
Philips Design	Product Design Consultancy	<i>4 Interviews:</i> General Manager, Deputy General Manager, 2 Senior Consultants

Table 6.1 Interview data sources

6.2.3 The analytical process

It has been previously mentioned that the grounded theory method requires the integration of both data-gathering and data-analysis in a continuous process of ‘theoretical sampling’ (Glaser and Strauss, 1967). The ground rules of theoretical sampling allow for the units of analysis to be identified on the basis of the anticipated contribution to the developing theory by a given informant. Even though the access gained to the research sites did not allow for an unchecked or unlimited choice of informants, I believed that given the research question and the nature of the study, the data obtained was of substantial quality and quantity.

6.2.3.1 The use of specialised software

There is a growing recognition with regard to the use of software solutions in the process of qualitative research (Seale, 2003; Atherton and Elsmore, 2004). In order to aid the analytical process and to streamline the handling of the large quantity of qualitative data I decided to use the QSR NUD.IST N6 software package. This was done after a careful analysis of alternative programmes and their suitability for the grounded theory methodology. As the N6 is a continuation of the NUD.IST software tradition which from the outset was designed to handle the ‘analytic logic of grounded theorising’ (Seale, 2003: 291), it appeared to be the most appropriate choice. Throughout the entire process of coding and analysing I was acutely aware of the likely problems that might have been caused by the software in terms of its potential to decontextualise and re-frame the data (Easterby-Smith *et al.*, 1991: 114). With this in mind I took extra care for the software not to overwhelm the qualitative-analytical process of the actual theory formation (Atherton and Elsmore, 2004: 7).

6.2.3.2 How the categories emerged?

In the course of the analysis of the transcripts assisted by N6, I allowed for categories to emerge from the data. I was aware that I was using my previous understanding gained from the three years spent amongst designers as well as the literature I reviewed. Having said that, I was fully committed to the requirement of grounded theory that a researcher should not prejudge the actual emergent theory. During the initial ‘open coding’ phase a large number of different codes have been created. All codes had corresponding text units assigned to them. Table 6.2 presents an example of how the text was coded and how the initial categories were developing (for interim codes see table in Appendix G).

Initial coding	Interview statement
	<i>Interviewer:</i> so what sorts of behaviours do you encourage? If you employ somebody, what sort of things will you be looking for in this person?
Having design skills	<i>Informant:</i> looking for people who are, who have great design skills and so.. but then looking for people who could be really entrepreneurial and do things, kind of be leaders... you
Being entrepreneurial	know.. have opinions on things not be afraid to voice their
Making voices heard, standing up for what one believes in	opinions, those are the couple of things we're looking for, not all these people have great design skills which is obviously
Taking risks willingly	very important thing but it's also about people who are willing
Accepting uncomfortable positions when the outcomes are unknown	to be risky, and not necessarily comfortable in knowing exactly what the outcome of the project is going to be. We get
Creating plans whilst acknowledging uncertainty	lots of what we call 'foggy projects' – where gosh we don't even know... it's not as simple as sitting down and saying – ok here are our plans for doing this but wow, we don't know what the outcome of this would be and being OK with this sort of this kind of foggy world...

Table 6.2 Example of initial coding

I followed Charmaz's (2003) example and often used action codes such as *seeking, working, embracing, creating* in order to see data as action (*ibid.*: 321). Because what I have been trying to assess is not only action-oriented but could also be seen by the participants as fairly static, in addition I utilised codes that did not relate to a specific action.

The fact that all of the interviews were transcribed enabled detailed analysis to proceed. In keeping with Glaser's (1992) suggestion that a line-by-line analysis of all interviews is time consuming and unnecessary, I only analysed the first two interviews in that way. However, it was necessary to keep transcribing the interviews as this gave me more sense of control and created a substantial database which could be additionally queried at a later stage. Subsequently, all of the interviews have been coded, not all of them using initial/open coding. Instead, as my understanding grew

there were more substantive codes appearing. This meant the interviews that followed were informed by and coded with these new emerging codes as well as newly appearing ones. For example, at one point a code called '*embracing discontinuity*' started to appear more often. It then was fed back into the interviewing process in order to see whether it resonated with the next informant. Based on interviewees' responses the category has been created, clarified and were given more prominence by being included as part of a substantive category. This was a process that followed not only in relation to this code but also all the others. Table 6.3 shows a reply of one informant to a question regarding this emerging theme.

Informant A – a Management Consultant, previously working for one of the Big 5, currently working for Wolff Olins was asked about his view on the emerging category of 'embracing discontinuity'.

Informant A: ...I think that's really important .. that's something I initially felt really uncomfortable with because it tends to be quite logical and if everyone is logical you tend to come up with the same answers but designers help you think illogically almost and jump around and think about things in a completely different way and you get a different result which helps. .. so I think they are [designers] comfortable with that.

Informant B – a Management Consultant, previously working for a business consultancy, currently working for Wolff Olins was asked whether she felt comfortable with 'discontinuity'.

Informant B: [...] well, it took me a while to feel comfortable [...] with the ambiguity because you're always trying to narrow down, you know, my training is to narrow down complex information to something that's simple and creative process creates more and it's very difficult because it can get very messy and so the problem with that is ... when you're the project manager on piece of work and you're trying to manage a creative process, which could go from meaning to design to coming up with an idea, it's hard to judge time, how much time does it take for a great idea..?

Table 6.3 Example of category consultation

The aggregation phase, where all codes were cross-referenced, took place concurrently to the 'open coding'. In the ongoing process of identifying substantive

categories, constant comparison between different incidents, situations, people and companies was proceeding. During selective coding, the researcher should adopt frequently reappearing initial codes in order that these be used in sorting and synthesising the data (Charmaz, 2003: 321).

As a result of this process, some initial codes merged into the more analytically inclusive and more abstract, substantial codes. These codes were then grouped together in clusters if it appeared there was enough conceptual 'glue' to form patterns based on similarities and differences. Only those codes that had considerable explanatory power remained. To illustrate Figure 6.1 presents a 'snapshot' of the open codes with corresponding passages from across different cases being grouped into a more abstract category called *Embracing discontinuity and openendedness*. This shows a part of the thinking process that is behind identifying and grouping codes in the research. By no means does it capture all of the nuances and cross-analyses that were taking place simultaneously, but it gives a reader a more transparent insight into the way in which the categories emerged.

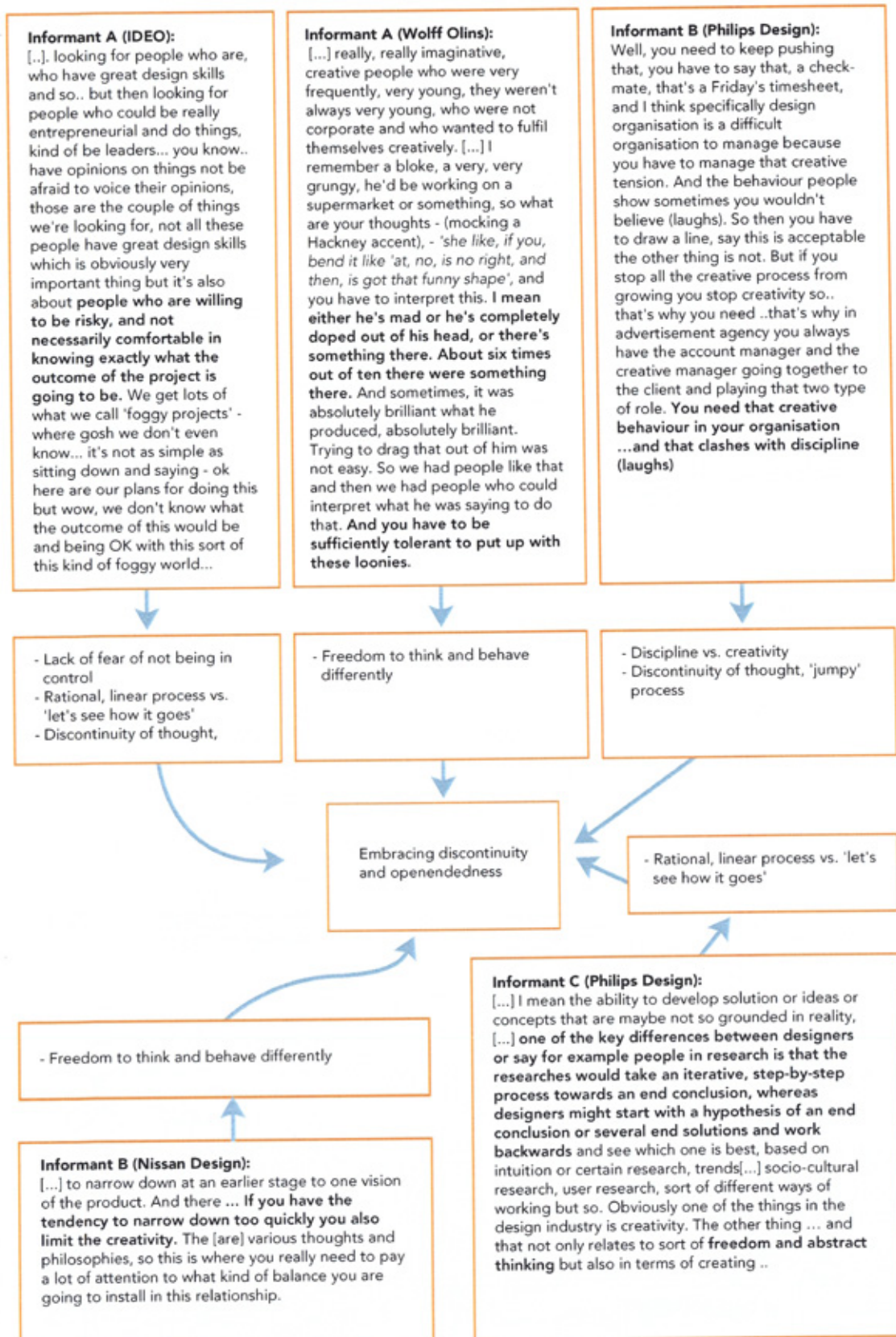


Figure 6.1 Coding process 'snapshot'

6.3 Chapter summary

This Chapter introduced the methods and techniques used to collect and analyse primary data under grounded theory guidance. It argued that the method suggested by Strauss and Corbin was too formulaic and rigid. As a result of the argument, Glaser's approach was adopted. The latter was deemed more appropriate and consistent with the theory building approach outlined by the original grounded theory methodology.

The process involved using 'open', 'axial' and 'selective' coding. Those concepts were used as useful reference points but were not followed to the letter. Since, I argued, it was my intention to engage with the research topic in a more direct and profound way than the one offered by the positivist paradigm, I followed a path of listening to the 'data' and deliberately tried to avoid forcing it into ready-made categories.

Both the unit of analysis and sampling were set in accordance with the guidelines of grounded theory. The former included individuals from design-intensive organisations (IDEO, Wolff Olins, Nissan Design, Philips Design). The latter was a non-random, purposeful strategy and followed a 'theoretical sampling' route.

As the technique of gathering data, the undertaking of semi-structured, in-depth interviews was chosen. They helped to focus on how individuals constructed reality, aided in eliciting both espoused understanding and hidden meanings, and gave the option of pursuing unexpected leads.

Lastly, I addressed the procedure by which I reached the theoretical themes, and demonstrated how the codes have been constructed from the statements and narratives present in the interviews.

7

Results - descriptions of
the professional design
culture

Chapter Seven - Results - descriptions of the professional design culture

7.1 Introduction

The results of the creative-analytical process are represented in the form of descriptive categories (substantive codes) that have been related to each other by more abstract concepts (theoretical codes). The core categories were primarily identified following the comparison of existing concepts to other concepts and incidents that emerged from the analysis of transcripts. A list of the main categories is presented in Table 7.1.

I included only those concepts that achieved a high level of clarity and have been present across the cases. My intention during the analytical process was to discard those aspects that were deemed to have primarily personal and trait-like dimensions. I focused on those codes and categories that in my mind were being clearly and often uniquely associated with designers. As in any qualitative, social constructivist research, the major role in abstracting and isolating concepts required ‘theoretical sensitivity’ of the researcher. Everything that I had done up to this point ‘conditioned’ my thinking and consciously or unconsciously affected my sense-making.

The following sections explain the characteristics of theoretical concepts which I believe represent the culture of designers. Those categories, while attempting to capture the essence on a more abstract level, are not entirely self-sustained and mutually exclusive. They are conceptual markers that help to map out the important milestones on the cultural territory. As the study is based only on a specific group of

organisations the results must be assessed through that prism. Where possible, the descriptions are supported by the references from the existing body of knowledge. However, it is important to note that broader theoretical discussion will take place in Chapter 8 where the implications of these findings will be debated.

Substantive categories	Theoretical categories	Core category
Reconciling contradictory commercial objectives Bridging approaches, swinging between synthesising and analysing	<i>Consolidating multidimensional meanings</i>	<i>Creating fundamental value through unconfined exploration</i>
Consolidating multiple languages and media		
Creative manifesting Rapid prototyping	<i>Creating, bringing to life</i>	
Working with tangibles		
Allowing oneself not to be 'in control' Linear process, detailed planning vs. 'let's see how it goes'	<i>Embracing discontinuity and openendedness</i>	
Freedom to think and behave differently		
Visual discourse, visual thinking, creative dialogue Aesthetics, beauty, taste	<i>Engaging polysensorial aesthetics</i>	
Intuition, instinct, tacit knowledge		
Concentrating on people, human-centeredness Transparency of communication	<i>Engaging personal and commercial empathy</i>	
Sense of commercial purpose Authenticity, playfulness		

Table 7.1 Summary of empirically-derived categories representing the professional culture of designers

7.2 Consolidating multidimensional meanings

Reconciling contradictory commercial objectives
Bridging approaches, swinging between
synthesising and analysing

*Consolidating
multidimensional
meanings*

Consolidating multiple languages and media

Table 7.2 Consolidating multidimensional meanings

The category which I labelled *consolidating multidimensional meanings* attempts to capture the essence of what many designers feel they bring with them and what in addition has also been noted by the other groups. It has to be said that the prominence of the elements relating to this category had been apparent from the outset. With the emergence of early codes such as *seeing holistically*, *bridging approaches*, *reconciling operational goals* or *using multiple media* I became convinced that these could be further developed and grouped under one, more abstract category.

7.2.1 *Reconciling contradictory commercial objectives and seeing holistically*

A great deal of attention has been drawn by the interviewees to the role of a designer as a person who ‘consolidates’ various meanings and ‘reconciles’ contradicting objectives. The designers are seen to have the ability and willingness to ‘look at a situation from a wide variety of perspectives’, bringing together ‘humanistic standpoint’, ‘deep understanding’ and technical limitations (Senior Commercial Partner IDEO). Their role in the organisation in certain circumstances appears to be making connections and pulling together different threads:

Designers themselves are actually managing all the constituent parts, and therefore managing the connection and the connected contribution of all the constituent disciplines in solving any problem or creating a landscape for exploring further problems or further opportunities, further possibilities of growth. (Senior Director PD)

Perhaps not surprisingly, the view that the best practice in design is the ‘art’ and ‘science’ of combining all the ‘technical, financial, operational and emotional pieces together’ is also shared by design management researchers (Lojacono and Zaccai, 2004: 75).

It seemed to me that many designers I have spoken to were willing to engage not only their aesthetic and logical senses but were also aware of other aspects of their projects. They were very often in a position where they were charged with making trade-off decisions about a number of aspects of a product or service they were designing. The art of seeing parts and a whole appears to be an essential part of their daily work. This of course is also something that other people in other organisations are asked to perform, but it struck me just how important is the ability *and* willingness to engage in bringing together very *different* and often *contradicting* elements of a solution together. Where others would shy away from asking questions about how it all fits together, including colours, shapes, textures etc. with the manufacturability requirements or the strategic message, designers are perceived to be fully engaged in finding actionable solutions to these questions.

This category has very strong connections to a number of others but in particular to *‘Engaging polysensorial aesthetics’*. In this respect designers appear to have a distinct advantage in consolidating different parts of the analytic-synthetic equation when it comes to linking both very tangible and intangible elements of the product, service or strategy.

7.2.2 *Bridging approaches by ‘swinging’ between synthesising and analysing*

It seems that, contrary to popular belief where designers are predominantly seen as engaged in ‘synthesising’ (Bernstein, 1988; Walker, 1990a; Sacher, 2002) their strength lies in utilising both - ‘putting things together’ and ‘taking them apart’ simultaneously. Where Walker (1990), whilst juxtaposing managers and designers, stated that designers’ predominant thinking style is ‘synthesis’, this is how an experienced manager from IDEO talks about the designers’ contribution in an organisational culture:

There are only a few things that designers really bring to the party and the first is this kind of way of looking at the world that is at the same time analytical and synthetic [...] (General Manager IDEO)

The idea behind using the word ‘swinging’ comes from the concept of *Schwung* used by Pierre Guillet de Monthoux throughout his book ‘The Art Firm: Aesthetic Management and Metaphysical Marketing’ (Guillet de Monthoux, 2004). *Schwung* comes from a German word meaning to swing between poles and is used in his book to explain the dynamic balance of ‘aesthetic energy’. The author mentions it in relation to swinging between extremes such as ‘the everyday and universal’ (*ibid.*: 76), ‘objective and subjective’ (*ibid.*: 47), ‘the sensual and reasonable’ (*ibid.*: 100). This term appeared to me especially fit to describe and capture what I was observing and experiencing. Designers were doing both – synthesising and analysing whilst working. This process often happened in very tight loops resulting in a difficulty to pinpoint whether a certain action was more synthesis-driven or analysis-driven. Perhaps that is why designers are seen by some as willing and able to cut-through a complex situation in order to pragmatically infuse it with actionable clarity. As one senior consultant in Wolff Olins puts it:

Because what you get is actually [...] designers bring the cut-through. If you had just lots and lots of thinkers thinking in one way you’d never get that ‘cut-through’, that difference. If it’s complex on the inside and extremely complex

on the outside, they will try and help you simplify everything and actually give it a bit more traction on the market. (Senior Consultant WO)

Goldschmidt (1996) states: '[the designer] oscillates between overviews and technical details between functional aspects of the design product and issues related to human factors. He thinks of features, product identity and aesthetics along with stiffness, strength and ease of production' (*ibid.*: 90).

Lawson (1979) showed in his experiments on architectural and science students the differences in the way they approached solving a design problem. Although inconclusive with respect to the origin of the differences (whether they were created as a result of socialising by the educational system or were dispositional in nature and only became reinforced by the education), the results showed that in relation to science students, architecture students were more solution-focused rather than problem-focused. What is important from the point of view of this category is that the experiments demonstrated that final year architecture students consistently used the strategy of analysis through synthesis. They '[...] learned about the problem through attempts to create solutions rather than through a deliberate and separate study of the problem itself' (Lawson, 1997: 43).

7.2.3 Consolidating multiple languages and media

When we ask the question about the elements that designers 'consolidate' in an organisation that deals with design on a strategic, organisational level, we find that '[...] we are talking about corporate identity, we were talking about the way in which an organisation projected an idea of what it was, through its buildings, through its environment, through people, through its behaviour, through its advertising, literature and everything else' (Co-founder WO). There is an overriding sense that designers are expected to engage with all of these so that they all work on an individual level and as a combined, cohesive whole.

This understanding closely corresponds with the three distinct sets of design activities identified by Cooper and Press (1995). These sets are: (1) the development of corporate identity, (2) the design of saleable products and (3) the design of operating environments (Cooper and Press, 1995). The above must be attended to in order to create a unified and complete solution.

When talking about the role designers played in the development of WO, its co-founder raises two issues – their ability to visualise and their close integration into the culture of WO:

Designers were much more important in WO than you would think, because although WO was very much a strategically based consultancy business, *hugely* (emphasis) relied on designers to give... to show, to visualise this stuff and very often it was led by designers, not by consultants. You couldn't say who led what. You couldn't say this was a consultancy-led business or design-led business. The thing that most companies don't get right, I think we're trying very hard to get right here, is that there should be no division. (Co-founder WO)

We find a reflection of this view in Joulia (2000). He writes: 'Design is about concepts, relationships, ideas and processes. It is also a collaborative venture which is supremely intradisciplinary in that it unites specialists in two- and three-dimensional communication, visual and material culture, and it is interdisciplinary in that it brings different professional domains together' (Joulia, 2000: 41).

Essentially, the concept of *consolidating multidimensional meanings* emphasises the designers' potential and actual role in reconciling different, operational objectives in a company. It points to the ability to operate in an analytical-synthetic loop in order to achieve a balance between internal cohesion and meeting practical constraints. In other words, designers master '[...] the comprehensive design process [that] is a rich, complex integration of the scientific and the sensual, the intellectual and the intuitive' (Friedman, 2002b: 199). It also closely links with the *Engaging*

polysensorial aesthetics' concept, which focuses on the use of many senses in a design process.

7.3 Creating, bringing to life

Creative manifesting
Rapid prototyping
Working with tangibles

Creating, bringing to life

Table 7.3 Creating, bringing to life

What appears to be the case with the majority of the interviewees is that they share a real affection for creating things and bringing solutions to life. This view has been strongly echoed throughout the interviews. Not only has it been mentioned by designers themselves but also has been signalled by non-designers working with them. One of the informants expresses his delight and joy when he sees something special being created in front of his eyes:

I like seeing things that are new and different. I get a genuine shock of delight to see something that I've never ever seen before work [...]. (Co-founder WO)

7.3.1 *Creative manifesting*

During the time I spent amongst designers this attitude has been very visible on many different levels. I would observe designers engaging in activities where they would be very rapidly creating small mock-up models of a very early design idea. They would then show it to their friends and colleagues to seek feedback and also as a pretext to a physical interaction. This would very often result in an increased intensity of communication among the people in the group alongside a positive change in the dynamics of the group.

Senior Designer at WO described it in even more profound words:

Design delights people. Good design is exciting and makes people feel great. You're never going to do that with a Power Point presentation or charts or graphs. It can be interesting, it can be intelligent and it can be inspiring in a way that you're projecting into the future, but when you look at something that's just wonderful and it makes you smile or makes you laugh, or just excites you - that transcends that kind of rational thinking. And it's the hardest thing to achieve but it's the most gratifying. (Senior Designer WO)

Another way of expressing it is that it is about *creatively manifesting* the ideas that would later shape successful products, services or experiences. Senior Director at Philips Design describes it in the following way:

Designing is about having ideas and *creatively manifesting* them in the physical or digital realm, things that are made, things that we bring to be. It's like having children, it's about making things and seeing the results of your work and expressing what you've been thinking, converting from an idea in your head through your hands or through someone else's hands. (Senior Director PD)

What has been noted across the cases is that 'Having something visible and tangible as a result of your work is a very rewarding thing' (Senior Manager PD), thereby, stressing the physical dimension of the creation process.

We find echoes of this belief in the literature with respect to the skill of visualisation. Lorenz (1986) reckons that this skill is most frequently used by the industrial designer to 'synthesize other people's ideas and in particular to provide concreteness to marketing and engineering concepts' (*ibid.* 7). The author quotes Henry Dreyfuss who wrote that the designer

[...] can sit at a table and listen to executives, engineers, production and advertising men throw off suggestions and [can] quickly incorporate them into a sketch that crystallizes their ideas – or shows their impracticability.

7.3.2 *Rapid prototyping and working with tangibles*

One of the properties in this theoretical category is the apparent need for swift execution. It seems that the ability and willingness to quickly bring the solutions to life is an important feature of designers' behaviour. We find this in the following comments:

Really important is this bringing things to life, being able to build prototypes, do it fast so that you don't invest a lot of time and money into something that's not what you want it to be. (Senior Manager IDEO)

The beginning of the design process is really about dealing with an enormous amount of intangibles, so it's more about developing understanding, observing, acquiring new knowledge and then the analytical process, applying creativity to it and being able to make rational judgement about those, the various concepts, the various ideas and quickly steer them into the process of product creation. There is this ability to rapidly go from very broad, very kind of subjective project into something that is rational and tangible, something that is discussable and debatable with our clients. (Senior Consultant PD)

One of the experienced management consultants now working with designers pointed out to me the effects rapid prototyping and visualisation has on the business process:

The first time they see it and starting to get excited by it and actually starting to understand how they can actually do it, 'cause before you do that, before you visualise and bring it to life it's just a whole set of facts and presentations of how do you put that whole thing together and they can begin to see and it's more than just bits so you can begin to build this. (Senior Consultant WO)

According to a senior figure at IDEO among the three essential things that designers bring with them is the ability and drive to make '[...] currently invisible or unspeakable or intangible ideas visible' (General Manager IDEO).

The category of *creating, bringing to life* could be described in the following phrases: ‘...making things tangible ...it's like having children... seeing the fruits of one's thoughts ...bringing to fruition ...making something where there was nothing’.

7.4 Embracing discontinuity and openendedness

Allowing oneself not to be ‘in control’
 Linear process, detailed planning
 vs. ‘let's see how it goes’
 Freedom to think and behave differently

*Embracing discontinuity
 and openendedness*

Table 7.4 Embracing discontinuity and openendedness

7.4.1 Allowing oneself not to be ‘in control’

I see this category as being one of the most notable features of the culture of designers. It aims to emphasise designers’ willingness to engage in a process that is not pre-determined or planned ahead in detail and where outcomes are unknown or uncertain. This attitude is in my mind inherently connected with the need to accept higher risk, stipulated by the temporary loss of control over the situation: ‘It’s about people who are willing to be risky and not necessarily comfortable in knowing exactly what the outcome of the project is going to be’ (Senior Manager IDEO). In this respect, willingness to take risk is not an aim in itself but rather a consequence of accepting a position when one is deeply unsure about the result of a project.

When I presented my early codes such as *‘Discontinuity of thought and ‘jumpy’ process’* it was questioned by one of the interviewees. He dismissed it and gave an example of the very strict and timely fashion in which projects in IDEO are run. It turns out that in IDEO the attitude of keeping an open mind is balanced on a project level by the generic design process. We know from other sources that this process consists of five distinctive parts: (1) observation – utilising cognitive psychologists, anthropologists, sociologists in conjunction with the client and designers; (2) brainstorming – a core of the idea-generating activity, drawing on the analysis of data

gathered in the observation phase; (3) rapid prototyping – working with models helps everyone visualise and initially verify possible solutions; (4) refining – narrowing options through iterating choices; (5) implementation – creating actual product or service (Kelly, 2001; Nussbaum, 2004). IDEO claim this process to be highly scaleable and has been successfully applied to designing products, services and experiences. Additionally, a senior informant suggested that this process has also been the key to IDEO's organisational expansion. In that sense it relates to using what is essentially a product development process to build an organisation. Byrne and Sands suggest that organisations could be designed using this principle (Byrne and Sands, 2002).

7.4.2 Linear process and detailed planning vs. 'let's see how it goes'

When asked what sorts of people are considered exceptional designers at WO, the Senior Designer said: 'People who are brave, a little bit crazy, not crazy as insane but willing to say – why not! Let's do this! Let's take a chance. That's invaluable. I'd say that's the most important thing' (Senior Designer WO). This sense of adventure and not being sure what is at the end of the process seems to be an important driver for designers I have met.

This is what a Senior Consultant, previously working for one of the major management consultancies, said about the positive attitude towards discontinuity: '[...] that's something I initially felt really uncomfortable with because it tends to be quite illogical. If everyone is logical you tend to come up with the same answers but designers help you think illogically almost and jump around and think about things in a completely different way and you get a different result. What you tend to get in theses classically trained consultancies you tend to do stuff. What you do is see what they need, sort of fill the gap and these sorts of things that are very slow processes, and design can come in and just say 'why don't we just do this?' (Senior Consultant WO).

According to Lester *et al.* (1998) an ‘interpretive manager’ – one that learns from designers – ‘embraces ambiguity and improvisation as essential to innovation’ and avoids ‘premature closure’ (*ibid.*: 89). Weick (2004) talks about designing as a battle between ‘naming the thing (variable) and losing the dream (overall vision)’ (*ibid.*: 48).

7.4.3 *Freedom to think and behave differently*

An unorthodox and open-ended attitude, by its virtue requires the acceptance of an unorthodox behaviour. Where there is little fear of not being in control there is also little fear of losing one’s face. The following observation by a former employee of WO and a current management academic has been made about designers’ behaviour: ‘[...] they would be able to say anything, do anything. Yes, this kind of freedom which we don’t have normally in a consultancy - where you are listening to the plans, you’ve got business models, you have very square boxes in which you have to write things’ (Senior Consultant WO). This to me amplified my own overwhelming feeling that the way in which designers behave in their place of work is very different to what I had been used to in a ‘professional’ management world. Their behaviour, although strange, at times very frivolous and seemingly immature, appeared to play an important role in their daily routine.

There is a potentially problematic side to this way of doing things. If unchecked by a set process within a business culture (such as the one used by IDEO), *discontinuity and openendedness* could lead to jeopardizing commercial objectives. This might happen in part due to a prolonged search for the ‘perfect’ solution that results in ‘overdesigning’. As Weick (2004) puts it: ‘Designers fail because they don’t know when to stop. The trick in designing is to stop while the design still has life.’ (*ibid.*: 43) Tom Kelly (2001) of IDEO says a successful design team needs ‘weirdos’ and ‘characters’ (*ibid.*: 97). Discontinuity and constant freezing and unfreezing of solutions could also be compounded by the particularly anarchic behaviour of certain members of a design team. Co-founder of WO talks about an extreme case of a designer: ‘He didn’t respect any discipline – he didn’t respect time discipline, he didn’t respect business discipline, he didn’t respect the boardroom discipline, he didn’t respect any discipline, any discipline of any kind. And because of that, in the

end he couldn't stay in the company' (Co-founder of WO). The same interviewee described a situation with another designer which called for considerable dose of tolerance on his part:

I remember a bloke, a very, very grungy, he'd be working on a supermarket or something, so what are your thoughts – (mocking Cockney accent), – *'she like, if you, bend it like 'at, no, is no right, and then, is got that funny shape'*, and you have to interpret this. I mean either he's mad or he's completely doped out of his head, or there's something there. About six times out of ten there were something there. And sometimes, it was absolutely brilliant what he produced, absolutely brilliant! Trying to drag that out of him was not easy. So we had people like that and then we had people who could interpret what he was saying to do that. And you have to be sufficiently tolerant to put up with these loonies [...].
(Co-founder of WO)

The result of keeping an open mind whilst working on a practically focused solution often brings change. As one Senior Manager in PD said: 'The admirable quality about designers is that they are very capable of embracing change. They actually thrive on it. They actually live on it' (Senior Manager PD).

To sum up, category labelled *embracing discontinuity and openendedness* reflects designers' need for the freedom to explore and their willingness to improvise, be opportunistic, have an open mind and embrace ambiguity.

7.5 Engaging polysensorial aesthetics

Visual discourse, visual thinking, creative
dialogue

Aesthetics, beauty, taste

Intuition, instinct, tacit knowledge

*Engaging polysensorial
aesthetics*

Table 7.5 Engaging polysensorial aesthetics

7.5.1 Visual discourse, visual thinking, creative dialogue

From a general perspective this concept represents designers' fondness for using their aesthetic sense and judgement whilst interacting with the environment. We know that one of the most important skills a designer obtains is the ability to visualise and 'think through drawing' (Schön, 1983; Lawson, 1997; Cross, 1999). Apart from that there is also a 'visual discourse within yourself' (Senior Designer WO). As one of the informants notes, engaging the visual has the potential to break the creative deadlock and stimulate dialogue:

I think that designers at the very heart, make stuff visible. They make currently invisible or unspeakable or intangible ideas visible. Suddenly something that someone wasn't able to articulate well is there in some form that allows the dialogue, a productive dialogue, to occur. (Managing Director IDEO)

A trained management consultant very expressively describes the effect visuals can have on the strategic business process:

You're blue on your face trying to explain a positioning a strategy, a vision. I mean what is a vision? [...] You're there, in front of a room trying to explain it and you have used all the analytics. You've analysed, you've talked about customers, competitors and they're nodding as you use words. And then suddenly, you bring visual and the whole room lights up. And that's very special! The ability to get that just right is incredible. So that's what I think

designers bring to the process – the ability to capture, not only to create the ideas, but to capture them simply into something visual that people relate to. (Senior Consultant WO)

One of the essential areas which will be fertile ground for elaboration through the design process will be sensory stimulation. This will require the designer to become more knowledgeable about the nature of the id. It is the area where the designer must become a more deeply focused expert. To a great extent, many designers have focused their attention on the sense of sight and, to a much lesser extent, the sense of touch. However, human sensory perception includes other organs besides the eyes and the nerve endings at the ends of our fingers and on our posteriors. Olfactory and auditory considerations and manipulations should also be part of the design process. (Zaccai, 1995: 10).

As Marion Buchenau and Jane Fulton Suri, two human factors specialists with IDEO San Francisco, explained in a paper entitled 'Experience Prototyping': 'More and more we find ourselves designing complex and dynamic interactions with converging hardware and software, spaces and services - products such as mobile digital communication devices, or systems of connected interactions such as those which occur on a train journey or an internet shopping spree. (Myerson, 2001: 88).

Despite the visual component (which arguably is the most prominent), they also seem to appreciate the importance of other kinds of sensorial stimuli. This preference and ability links to an earlier concept named *consolidating multidimensional meanings*. In the process of compiling together different constituent elements in order to come up with a solution, designers often conspicuously draw from many disparate sensorial sources.

7.5.2 *Aesthetics, beauty, taste*

When we talk about the aesthetical dimensions such as ‘beautiful’ and ‘ugly’ (in the context of designers’ preferences), it is important to state that most of the interviewees actually acknowledged that there is a general perception in society that colloquially ‘design is about the triumph of form over function’. Throughout my study I have heard that repeated many times by various observers of contemporary life and culture. There seems to be so much attention placed on the way things look in British society that other dimensions of the word ‘design’ are virtually absent from popular understanding. As a matter of fact, all of the interviewed designers-by-trade firmly believe that in their commercial practices this is not the case at all. What follows is but one expression of the point of view in which the balance of form and function is addressed:

For me beauty is very important but it’s simply the [...] it’s the door-opener to something. And I think that really beautiful things that work poorly are no good. This beautiful toothbrush is a crap toothbrush if it lasts about 3 brushes. It’s no good. I think so much less of this manufacturer because of that. Although it’s beautiful it’s crap [...]. (Managing Director IDEO)

The question remains whether this is only an espoused value held by those designers who are still actively involved in designing or whether there actually is a tendency that makes designers more inclined to sacrifice function when faced with the dilemma. The answer to this question is not straightforward. There is in my view a strong tendency amongst designers to make something aesthetically pleasing. However, many designers show a willingness to balance this out with what is required by the functionality of a product or service. They often take pride that with a simple but elegant design they are able to skilfully combine the requirements of the function and the form. Having stated that, the interdependence of some of the categories becomes apparent. *Consolidating multidimensional meaning* outlines the willingness to link different aspects and not to focus on just one be it manufacturability, practicality, feasibility etc. Even if they are sometimes not able to

meet those often contradicting requirements with 100% success (whatever that may mean) the consciousness about it and the will is very often present.

Whilst giving the reasons why a person decided to join a company, one of the respondents clearly indicated that it was the combination of aesthetics and function that made her consider the job suggesting the importance of the combination of both:

They were concerned [IDEO], this is my perception, with designing for people – so great spaces for people, great experiences or great products that are a pleasure to use. This whole notion of useful, useable, delightful I found really compelling. (Senior Consultant IDEO)

7.5.3 *Intuition, Instinct and tacit knowledge*

When compiling all the different stimuli and meanings to achieve a desirable outcome, designers use not only their rational, technical knowledge but also their implicit, hidden and multifaceted ‘sense of knowing’. So called ‘tacit knowledge’ (Polanyi, 1966; 1973) is an essential component of the daily life of a designer as it is of any other person. Because of the need to reconcile many different variables in many different contexts and because they very often deal with multidimensional ‘wicked problems’ (Rittel, 1972; Buchanan, 1992; Lawson, 1997), designers seem to be socialised to depend more on this ‘mode of knowing’ than other professions. The following passage illustrates how this tacit knowledge, or what some might call ‘intuition’ operates:

Often the first idea is the right one. I don’t believe that’s serendipity. There is something that is right about it. All your experience your knowledge and your abilities come into play in that one moment and you get something down and then you can go through endless process of trying other things but that really fresh moment when you approach something so often is right. (Senior Designer WO)

Complicated arbitrary factors of taste and preference, which need to be addressed in the process of design, are only partially susceptible to scientific or engineering analysis. Therefore, argues Buchanan, they must be responded to through 'aesthetics' (*ibid.*: 52).

Peirce distinguishes 'aesthetic feeling' from emotional evaluation such as pleasure and pain. These are secondary sensations, like symptoms and transitions, whereas the aesthetic feeling is more like a disposition. It attracts or repels (Vihma, 1998: 10). 'Aesthetic feeling has no representation, because it is immediate, inexplicable and un-intellectual consciousness that "runs in a continuous stream through our lives"' (Vihma, 1998: 12). In a similar way Gelernter, in his book on aesthetics and technology, describes aesthetics as the deep, almost poetic fulfillment in connection to products being designed and experienced (Gelernter, 1998). These seem to appear in what designers themselves describe and what I have observed whilst interacting with them. Sometimes the anticipation of the little moment of 'discovery' is almost palpable.

Engaging with this 'immediate and unconscious perception' is how one informant sees his work of integrating a strategic intent into a workable solution: '[...] we interpret the illogical thought, if you like, to make it real. So if you walk into a building you're not talking about logic are you? What you talk about is how you feel, and you leave the building with an impression' (Co-founder WO).

Intuition is a 'synthetic' psychological function in that it apprehends the totality of situation (Vaughan, 1990). 'it [intuition] allows us to synthesize isolated bits of data and experiences into an integrated picture. It is a holistic perception of reality that transcends rational ways of knowing' (Khatri and Ng, 2000: 60).

Intuition has the ability to subtly balance quantitative and qualitative aspect of decision-making. It can deal with more complex situations, than those, which could be figured out in our conscious mind. Khatri and Ng (2000) state that intuition does not come from emotion. For example, fear and desire both interfere with intuitive perception (Vaughan, 1990).

Agor (1990) has identified several conditions under which the use of intuition is appropriate: (i) there is a high level of uncertainty in the environment; (ii) there is little previous precedent for action in the face of new emerging trends; (iii) there are limited or no ‘facts’; and (iv) there are several plausible alternative solutions to choose from with good factual support for each option.

Clarke and Mackaness (2001) state that despite recognising intuition as an important source of ‘sense making’, the structure and content of the concept of intuition is still poorly understood. (*ibid.*:148) Intuition has been referred to as ‘using heads rather than formulas’, (Kleinmuntz, 1990), ‘cutting through’ the essence of a situation or a means of complex data processing (Payne, Bettman *et al.*, 1988).

This is not to say, though, that design has become entirely a question of visual representation. While it is necessary to illustrate it through photographs in a book, it must be remembered that design has many forms. Its interdisciplinary practice means that it may amalgamate a range of sensory features - of sound, smell, touch, feel, weight, movement and sight. These are always referential, by assimilating and arranging data of the known pasts and places. So while design may reproduce and refine pre-existing situations, it may also aspire to the invention of new ones. It is the stuff both of illusion and allusion’ (Julier, 2000: 203).

7.6 Engaging personal and commercial empathy

Concentrating on people, human-centeredness	<i>Engaging personal and commercial empathy</i>
Transparency of communication	
Sense of commercial purpose	
Authenticity, playfulness	

Table 7.6 Engaging personal and commercial empathy

7.6.1 Concentrating on people and human-centeredness

Designers are often seen as individual ‘heroes’ whose egos dominate in the relationships with clients and co-workers. Whilst the informants acknowledge that this is generally societies’ perception and that indeed ‘every young designer, to a certain extent is somewhat egoistic’ (Senior Manager PD) they see the reality on the ground to be very different. Time and time again the interviewees stressed that a lot of designers they work with have an exceptional ability and will to empathise and accommodate customers’ views:

Designers are trained by hard work and practice to tune into how people relate to things around, in quite a deep way. (Senior Commercial Partner IDEO)

I think designers are much more tuned into people’s needs and also market trends, people’s lifestyle and socio-cultural trends. Designers are much more tuned to that, certainly within Philips. A lot of Philips business, research and development people are coming from technology background that’s developing technologies but not necessarily knowing what they’re going to do with those technologies. Designers are coming almost from the opposite end which is people. We know about people, you know, what people want, what people need, what kind of quality of life people would like. (Senior Manager PD)

‘Whatever we’re trying to design, we’re always doing it from what traditionally you might have referred to as user-centred, human-centred or customer-centred point of view [...]’ (Senior Consultant IDEO). In order to underpin the importance of focusing on the human side of adding value to the future product, service or experience IDEO have incorporated into their process elements from anthropology, psychology and sociology (Kelly, 2001; Squires and Byrne, 2002). Even though the methods and techniques are not as ‘in-depth’ as their sociological-academic versions, they enable IDEO to strengthen their processes in a bid to empathise with the end-users even more.

7.6.2 *Transparency of communication*

It appears that what is required of designers is not only the ability to connect with the audience on a deep *aesthetic* level but also the ability to *communicate* well:

We are looking for people that are capable of taking ideas and developing them. We are looking for people with good communication skills, those that are capable of articulating design, articulating their thinking, therefore engaging in a discussion out of which we can help to understand and therefore pass that onto our clients as well. So it's important to be able to explain what you're doing and why you're doing it. (Senior Manager PD)

There appears to be a very important aspect of designers' attitude towards their work that sets them apart from artists and relates to the ability to communicate. According to a Senior Director from Philips Design, designers above all must produce outcomes that are transparent:

The biggest thing a designer has is a personal, creative process and that should be celebrated and encouraged in everybody. But one thing the designer does that the artist doesn't do is that an artist is contributing in a very personal way to the audience. If the audience doesn't understand it or cannot read it doesn't matter. It's the artist's view of the world, the artist commentary. Designers have to speak a universal language to a universal world, even though they do that in a very personal way. Even though they might speak in many languages simultaneously to a diverse audience at least there is openness and a public level of acceptance. If it can't be publicly accessible than I think that's called art. (Senior Director PD)

It seems to me that sometimes the transparency of communication between a designer and a client/colleague could be hampered by the intensity of designer's work and its multifaceted nature. This indeed appears as a rather rare quality where a designer can be fully transparent in communicating his or her methods. The fact that espoused reality could in this instance be very different from the observed reality,

calls for a great deal of patience in those organisations. As I mentioned previously when I was discussing the category of *Embracing discontinuity and openendedness*, there are sometimes very skilled individuals who must be interpreted by co-workers.

This is how a consultant from WO reflects on the ways in which designers communicate and work with others on a team:

I think [...] actually what I've observed, what I've noticed is that I think designers are usually very quiet. They take long (stretching the words pronouncing them very slowly) time. They let other people speak, which we don't do (laughs..) 'cause we use words to express ourselves, prove ourselves or whatever, but then, what I noticed in meetings is that there is always a lot of doodling and scribbling of a designer. So you think that they are not tuned in into a meeting that they are in other world and they're just doodling and they're doing their thing and then at the end – boom! they'll come in into the conversation having heard [...] but with something very relevant, so that's what I've noticed – they observe a lot and they listen a lot. (Senior Consultant WO)

7.6.3 Sense of commercial purpose

On top of the personal empathy and deep connection with people, designers in those companies espouse an attitude that I describe as *commercial empathy*. What I want to say is that they are, or they are expected to be, sympathetic towards commercially-bound reference points of their work. For example, model designers at PD 'are capable of understanding that they need to work within given constraints, that business environment imposes so many different constraints, not just time constraints. There could be constraints on the design in terms of the execution of the design itself, the quality of the materials, components used or many other aspects' (Senior Manager PD).

Having observed designers in their work made me particularly attentive to the issues of their commercial awareness. The very fact of it being mentioned by the interviewees suggested to me that there might be a problem here. In fact, I have witnessed situations where designers would be prepared to jeopardise the commercial aspects of their work whilst trying to meet their aesthetic criteria. Some reactions of my informants may also suggest that in day-to-day circumstances designers are less sympathetic towards the financial constraints than they are towards more intangible aspects. In the following extract from an interview with a Senior Director at Philips Design, a designer-turned-manager, I asked about the change of attitudes in his professional life:

Interviewer: Is there any problem with this [becoming manager after being a designer] inside you? Perhaps you consciously had to let go of certain types of behaviours when you entered the role of a manager? (no answer) or was it a seamless transition and you didn't have to do anything with your personal attitude or behaviour?

Interviewee: Well, there are... it was more seamless because you grow into the role, you have to start a group and then the group grows and .. so your role, or at least my role grew with the process of starting competence, of course I finished you have to learn things as a manager that you don't need as a designer, so how to deal with specific behaviour in the group, you have to deal in different ways as a manager then someone doesn't fill in the timesheets or things like that...

Interviewer: So you wouldn't care about that?

Interviewee: As a designer you don't care about those things (small laugh) because creativity is the most important thing. As a manager in the end the money has to come in so people have to fill in the timesheets so that we can invoice something and to a lot of designers that's absolutely alien thing – timesheets, limiting creativity ...

Interviewer: How do you then reconcile this?

Interviewee: Well, you need to keep pushing that, you have to say that, a check-mate, that's a Friday's timesheet, and I think specifically design organisation is a difficult organisation to manage because you have to manage that creative tension. And the behaviour people show sometimes you wouldn't believe (laughs). So then you have to draw a line, say this is acceptable the other thing is not. But if you stop all the creative process from growing you stop creativity so.. that's why you need ..that's why in advertisement agency you always have the account manager and the creative manager going together to the client and playing that two type of role. You need that creative behaviour in your organisation ...and that clashes with discipline (laughs). (Senior Director, Philips Design)

This suggests to me that if a person who used to be trained as a designer and is now working full-time as a Senior Director in a managerial position in a company talks about designers' lack of discipline it is a real and important issue. Designers seem to need to be reminded about the financial and resource-driven part of their assignment. As one prominent interviewee mentioned, there is an ever-present trade-off situation in all organisations and designers and design are not exempt from it. If you focus on the highest quality and consistency of the design message – be it brand consistency or product quality consistency – you create more costs that have to be met by the system. When asked how best designers can contribute to an organisation the informant replied:

The best ways of doing that is to create *total internal coherence* (three words pronounced separately and with emphasis), so that every part of company you touch feels the same. And that's a very difficult thing to do, because there are certain parts of the company that have cultures that are very different from other parts of the company. If I'm in the purchasing department of any company, I get my marks, I derive my marks, I derive my satisfaction and get my bonus by keeping prices down. Keeping prices down does not cohere with having very high quality. So if I'm a designer and I say I want, on this building

to have this furniture, these door knobs, and the purchasing managers comes and says – I can get door knobs and 20% of the price, the designer has to be sufficiently influential to introduce coherence throughout the picture. (Co-founder WO)

This interviewee holds a very firm view that there exists an irreconcilable trade-off between shareholder and stakeholder model values. He believes that design is just one of many different functions that a company must perform in order to survive and designers are not part of a subculture that has knowledge of how to deal with contradicting financial requirements.

In the literature we find a reference to this role of a designer. Lorenz (1986) notes that not every designer is capable of playing a central role alongside marketing and engineering in the product development process. Very few, as he puts it, have ‘the commercial acumen and experience to make a contribution to marketing strategy’ (*ibid.*: 22). Those who do, however, can add immeasurable value to their companies. As an example of a humble and connected designer, Lorenz (*op. cit.*) cites the words of Kenneth Grange about a particular skill of the industrial designer:

[their skill] is to reconcile the benefits of long associations [of learning and experience] with the cross pollination of ideas from one field to another. It is difficult skill embracing problems of confidentiality, a wide knowledge of many engineering and fabricating skills, and awareness of consumer and cultural needs (in the widest sense), plus sympathy with financial evaluation.

As we can see, in addition, it also very strongly relates to and supports another category – ‘*Consolidating multidimensional meanings*’.

7.6.4 Authenticity and playfulness

As far as the daily life of a company is concerned, designers appear to have an additional, perhaps more subtle role of refreshing the atmosphere and reducing tensions:

What design can do is inject a whole lot of excitement into their everyday experience. What we can offer people is something that is ideas and experiences that revive them reinvigorate them and inspire them and that's very gratifying. It often requires bravery on their part but if they accept it and they go for it then it can be terrific. (Senior Designer WO)

This reinvigorating atmosphere that designers allegedly stimulate has something to do with their willingness to be playful. As this passage shows there are natural boundaries to the playful behaviour which is delineated by the sense of *authenticity*.

I think to be creative you have to be playful. If you're not playful you're probably not being creative. I think the danger with '*fun*' thing is that it ends up making it harder for rational thinkers to take it seriously. So I think you have to trade here on a fairly narrow line. [...] I've actually seen companies make that mistake. There's a management consultancy, I'm not going to mention their name, who claim to offer innovation consulting and very superficially think creating a '*wacky*' environment and sticking dumb toys on the wall will do it. That is just not authentic. I think people smell the inauthenticity. Playfulness is important but it can be something that... it has to be done genuinely and not in a way that is just seen as slap on. (Managing Director IDEO)

The idea of playfulness also relates to the way in which designers structure the physical environment they work within. In the office I have observed that designers would display various artefacts meant to stimulate their creativity, express their individuality or simply amuse the rest of their colleagues. Initially it was rather surprising and sometimes made me feel uncomfortable. The ubiquitous and colourful nature of their displays seemed intimidating and chaotic at first. Upon

reflection, I believe my reaction was additionally stimulated by the stark differences between my old professional environment and the designer's office. The virtual lack of emphasis placed on the visuals and individuality in the former became instantly apparent.

In short summary *Engaging personal and commercial empathy* draws our attention to a rather distinct, human-centred orientation in designers' professional lives that attempts to compliment commercial requirements. It relates to the deep (*aesthetic*) listening and dialogue as a means of reaching customers' hidden needs. It encompasses transparency of outcomes and aims to embed emotional reactions into products and services.

7.7 Creating fundamental value through unconfined exploration

Constant comparison of different categories and statements culminated in recognising five theoretical categories described above. What emerges from the analysis as the central point, the core category, concerns designers' focus on *creating fundamental value through epistemologically unconfined exploration*.

In the process of creating fundamental value they engage in exploration of new conceptual territories. Where design is *exploratory* (Cross, 1999: 28) designers in the four organisations are seen as cultural *explorers*. Through the combination of skills, attitudes and behaviours they are poised to lead the discovery of novel uninhibited commercial spaces.

The most important reference point for designers is the future cohesive solution that takes many disparate variables into account (*consolidating multidimensional meanings*). 'They [designers] can see things and develop mental steps. They can plot things into the future. Because it's a prepositional and creative discipline it always sees things in the future and is moving towards them' (Senior Director PD).

Furthermore designers, through their *personal and commercial empathising* are uniquely positioned to link the emotional and the rational, with social on the one hand and commercial on the other. In the process of *consolidating meanings* they create strategic ‘focal points’ in the form of brands which have both internal and external functions and ‘[...] translate the business strategy into something ‘do-able’, understandable and emotional for people’ (Senior Consultant WO).

What is essential from the epistemological point of view is that designers see the reality as something pliable. Their attitude towards creating workable solutions is assertion-based not evidence-based. As one informant notes: ‘Designers don’t do it [create knowledge] through writing papers, they don’t do it by looking up references. They do it by collecting stimuli and tuning their responses to them and striving to be original in important ways’ (Senior Commercial Partner IDEO).

During the design process, designers are using their analytical skills as well as aesthetic sense (*engaging polysensorial aesthetics*) in an attempt to create something better than existed previously. The fact that designers are tuned into interaction with the world around them aesthetically also suggests that they might be particularly helpful if a company wants to engage this dimension (Strati, 1999). There is a strong commitment amongst designers to make a fundamental difference. Senior Consultant from PD notes: ‘The thing I love about designers more than anything else is this belief that we can always do better, the belief that we can make a difference, we can make a change. There’s this kind of built-in mechanism of designers to accept any form of challenge’ (Senior Consultant PD). This somewhat naive belief is what drives this group of people towards creating different and often unique propositions. Coupled with their personal and commercial empathy these projections become something that connects with the customers and is economically viable.

Consequently, designers to a minimal degree rely on predefined, cumulatively created knowledge frameworks. They are stimulated by the challenge of creating substantially superior solutions in order to bring about fundamental change to the value offered. This attitude at its heart embraces continuous challenge to the

organisational *status quo* and builds in natural unwillingness to accept the authority of past experiences. This is how a Senior Designer and a Senior Manager explain the role of their design-led consultancies:

What we try to do is help businesses in some way reinvent themselves [clients]. Either reinvent what their offer is, reinvent their particular position in the market, so to redefine the market or create something completely new. So instead of being the best of a kind they are the only of a kind. (Senior Designer WO)

One of the responsibilities of designers is to create challenging propositions. If we are not challenging, if we are not provoking our clients [internal and external] I don't think we are doing a good job. (Senior Manager PD)

This attitude seeks perpetual reconfiguration of the existing rules and boundaries. If translated into the world of strategies this means reconfiguring markets by bringing new, fundamental growth based on insightful and meaningful products, services, systems, brands and experiences. That is precisely what the scholars see as the core notion of the resource-based view of strategy where the value-adding process originates inside a company rather than is derived from the configuration of its environment (Prahalad and Hamel, 1990; Hamel and Prahalad, 1994; Kim and Mauborgne, 2005).

If the integration of design values is to be successful there appears to be a need for engaging the strategic apex of an organisation. Design attitude takes hold as a strategic resource when it is directly linked to the control centre. People responsible for designing must be integrated throughout the strategic development process.

The willingness to *embrace discontinuity*, as well as the *open-ended* character of the process, where the ambiguity prevails and the outcomes are uncertain, lies at the centre of designers' contribution. The spirit of exploration and challenge is what designers bring with them. In the end it channels to an attitude focused on discovery

and the creation of fundamental value. WO's Co-founder explains the essence of WO culture:

Our view of the world was different from their [other consultancies] view of the world. We saw things much more like[...] in a much more open way. We were much better at looking at the future than they were. And we were much better in putting them in context, than they were. In other words we could see them as other people saw them, rather as they saw themselves. And I think we were very good at showing people what they could become. (Co-founder WO)

7.8 Summary

This Chapter presented the results of the creative-analytical process of describing the themes of the culture of designers. It followed the grounded theory method and was based on the primary data gathered during a number of in-depth interviews. The Chapter provided numerous excerpts taken directly from the interviews. Those were used to illustrate the points made about the professional design culture.

In the course of the research process five main theoretical categories have been identified:

- *'Consolidating multidimensional meanings'*
- *'Creating, bringing to life'*
- *'Embracing discontinuity and openendedness'*
- *'Embracing personal and commercial empathy'*
- *'Engaging polysensorial aesthetics'*⁵

These categories have been recognised as important to describing designers' professional culture. The analysis present in the Chapter also suggests that designers *add fundamental value through unconfined exploration.*

⁵ The nature of the descriptive and narrative-based discussion and analysis prevents from more detailed summary of each individual category. The reader is encouraged to refer to Table 7.1 for a more comprehensive list of categories.

Chapter Eight – Discussion around design and designers in organisations

8.1 Introduction

As demonstrated in the previous Chapter, designers form a group in organisations which can be characterized as having distinct values and preferences. The existence of those specific ‘ways of doing things’, assigned to theoretical categories, have been derived from organisations in which one profession primarily forms the dominant organisational subculture.

This Chapter incorporates those findings into a broader debate about the place of design in an organisation and management research. It presents a model of design’s influence which positions professional design culture as its most important component. The model proposes three different kinds of mediators of design’s impact. These are (a) *frameworks* and theories including, processes, tools etc.; (b) *outcomes* and artefacts including working environments, end-user products, brands and other forms; (c) professional *designers* as change agents (in the sense of design culture described in Chapter 7). The Chapter also examines how the professional design culture modifies channels (a) and (b).

The Chapter primarily builds on the design management, and organisation science literature and addresses questions such as: What is the place of the professional design culture in a wider managerial framework? Is the culture observed beyond design-intensive firms, if yes with what consequences? How do designers interface with other groups in organisation especially marketers with whom they are in close cultural proximity? What strategic implications might the professional design culture bring?

8.2 Channels of design's influence

There are many ways to address *design's* impact on organisations. The literature focuses for example on the following: the financial impact of investment in industrial design (Roy and Potter, 1993; Rich, 2004; Hertenstein *et al.*, 2005), the strategic importance of design (Kotler and Rath, 1984; Bruce and Bessant, 2002; Broja de Mozota, 2003; Lojacono and Zaccai, 2004; Ravasi and Lojacono, 2005), design's own knowledge and impact (Buchanan, 1992; Cross, 2000; Jimenez Narvaez, 2000; Bertola and Teixeira, 2003), design's impact on innovation (Thackara, 1997; Bruce and Harun, 2001; Squires and Byrne, 2002) political, ethical and social implications of design (Papanek, 1971; Margolin and Buchanan, 1995; Papanek, 1995), epistemological implications of design in management research (Romme, 2003a; Van Aken, 2005) and organisational design (Weick, 2004).

There are, however, many different interpretations of what *design* is and therefore commentators, scholars and practitioners instead of clarifying the matter for the 'average user' often confuse it even further. Some authors use *design* as signifying particular processes utilised, certain aspects of the epistemology of pragmatism embedded in design or the ethical and social consequences of designing. To illustrate one aspect of this often imprecise message which uses the rhetoric of design, let me introduce a recent, influential design management example.

When discussing the role of design in an organisation a compelling and seemingly transparent case is Broja de Mozota's (2003) approach based on her research into thirty three companies taking part in the 1997 European Design Prize competition. In her understanding design plays three major roles in an organisation - it helps to *differentiate* product offering (design as differentiator); *coordinate* innovative activities (design as coordinator) and *transform* organisations (design as transformer) (*ibid.*:vi). Whilst these roles would undoubtedly be recognised by designers in the studied organisations, the construction which Broja de Mozota and others like her use - '*design* as differentiator, coordinator etc.' is not entirely clear outside the field. Bearing in mind the large number of meanings of the word *design* (i.e. process, product, function, plan, conception, intent, pattern, blueprint, art, activity, creativity, industry,

etc.) it is somewhat demanding to expect readers to grasp what is meant. Even framing it as ‘design strategy’ (*ibid.*: vi) does not resolve the issue. Using such a broad construction arguably clouds the picture of what is precisely meant by ‘design’, especially when it is thought that design is what we all do (Cross, 1995) and that designing is simply changing current situations into preferred ones (Simon, 1996). Are we talking about the design process which is doing the ‘differentiation’ and ‘coordination’ or is it the outcome of it? Or perhaps it is the design function at work. What follows is the list of Broja de Mozota’s (*ibid.*) conclusions summing up the exploration of ‘*design* as differentiator’ [italics added]:

1. *Design* creates a differentiation of the form which has an impact on consumer behaviour.
2. The *design*-form encompasses cognition, emotion, message and the social relationship with the consumer.
3. The consumer has aesthetic preferences that come from *design* principles but vary accordingly to the context and her or his experience with design.
4. *Design* creates differentiation through brand identity development, building brand equity and through architecture (*ibid.*: 113).

In points 1 and 4 the word ‘design’ is used as if the author was referring to an intelligent agent. The form ‘*design* creates’ suggests that. The usage of *design* as an actor capable of creating, affecting and acting is very common in literature adding, in my opinion, to confusion, misrepresentation and misinterpretation of *design* (I am aware that even in my own argument I have fallen victim to this shorthand simply because I have gained tacit understanding of what ‘design’ is from my own perspective). It compounds the bewilderment and audience’s perplexity when it comes to communicating the message of the professional community of designers to the outside world. Instead of making an abstract and all-encompassing word ‘*design*’ the centre of attention, I would advise more focussed and appropriate expressions such as ‘*design* process as practised by professional designers’, ‘*design* method(s) as used by professional designers’, ‘*design* professionals’ or indeed ‘professional *design* culture’ be substituted for it. It would clarify what precisely is being argued when describing *design*’s role and qualities.

Thus, taking into account (a) the lack of a broad framework addressing current inconsistencies and problematic framing of *design's* impact on organisation, (b) outcomes and conclusions stemming from the research on the professional design culture and (c) reading of design-related literature and the management mainstream interpretation of design, I propose a model for analysing the ways in which *design* affects organisations (see Figure 8.1).

The model is based on the assertion that all *design* has to offer, both to an enterprise and through it to a broader economy, is channelled through essentially three 'media': *frameworks* inspired by design, *outcomes* produced during the design process and professional *designers* with their culture (see Figure 8.1).

What follows is the analysis of those three groups and their connections in the light of the findings concerning the professional design culture.

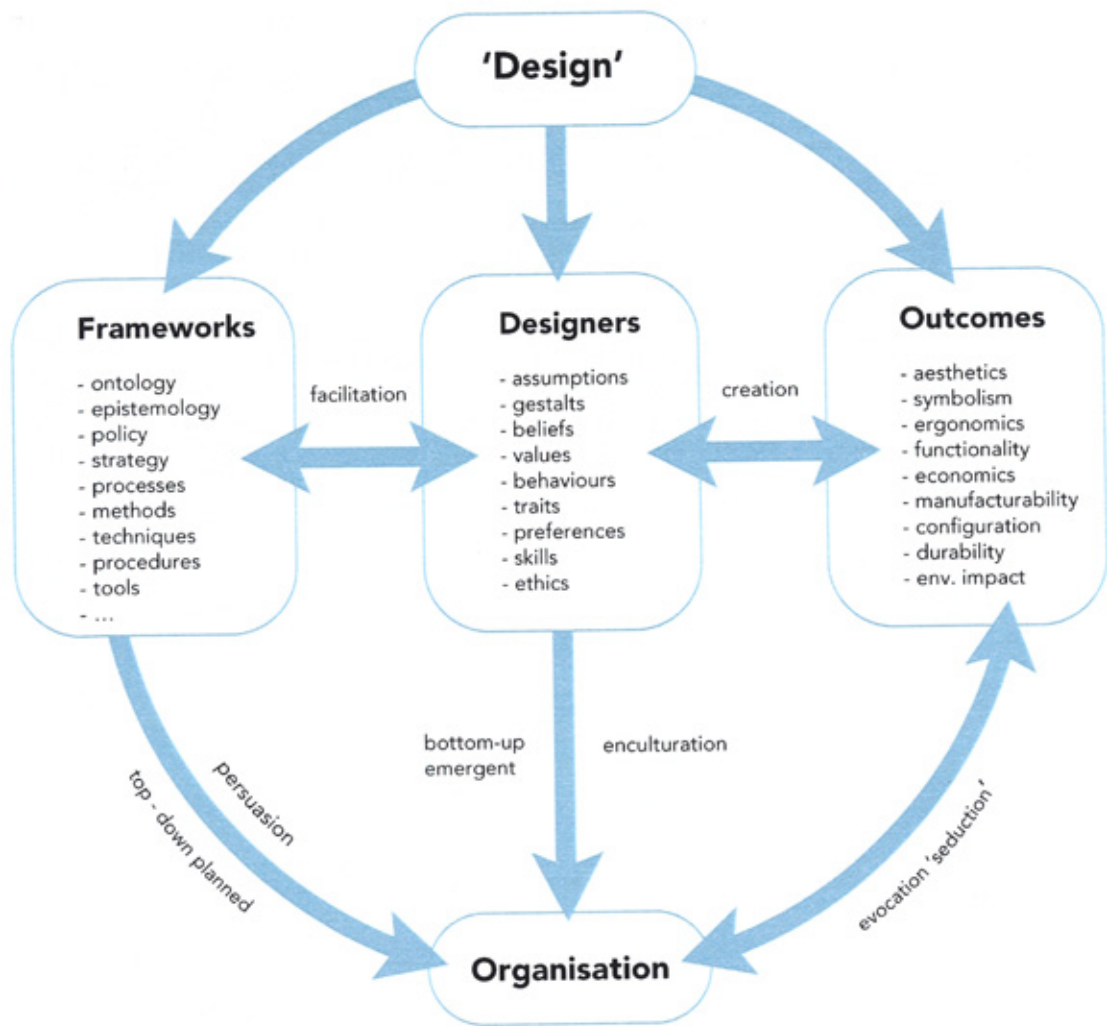


Figure 8.1 Channels of design's impact on organisations

8.2.1 Frameworks

Firstly, it takes the form of *design-inspired frameworks*, epistemologies, theories, methods and tools. The examples here include: design as an underlying epistemology and mode of management research (Romme, 2003a; Van Aken, 2004; 2005); seeing 'managing as designing' with emphasis on the process and nuances of *design* (Boland Jr. and Collopy, 2004b; 2004a; Weick, 2004); epistemological influences of Dewey's experiential and cultural approach to learning (Dewey, 1934; 1991; Eickmann, Kolb *et al.*, 2004); the use of reflectivity and deep-level learning (Argyris, 1977; 1978; 1982; Schön, 1983; 1985; 1990; Senge, 1990); design-inspired policies (Cooper and Press, 1995; Papanek, 1995; Press and Cooper, 2003) etc. These exemplars all share a

common way of influencing actions in and outside organisations, namely *persuasion*. The strategy, in this instance, is to argue the case of design-inspired theories and frameworks, in other words use the rhetoric, often supported by the current research fashions, to achieve the desired impact. The suggested effects of the frameworks range from bridging the 'relevance gap' in management academia (Tranfield and Starkey, 1998; Huff, 2000; Huff and Huff, 2001; Starkey and Madan, 2001; Romme, 2003a; Van Aken, 2004; 2005) through increasing the innovative powers of the company by the design process (Kelly, 2001; Squires and Byrne, 2002; Weick, 2004; Ravasi and Lojacono, 2005), to bringing tangible, economic benefits to the organisations (Rich, 2004; Hertenstein *et al.*, 2005). Arguably, those efforts also contribute to making design more visible and more important along the lines of the professional project. Institutions such as Design Council in the UK, the Design Management Institute in the US and numerous consultancies promote design-inspired policies, theories and tools in the society.

The process of proposing those frameworks to the research community, managers and wider public is, to use Mintzberg's (1993) analogy mostly top-down and planned. Consequently, the impact of those will be felt in wider circles of organisations after having gone through the process of peer verification and will depend on its reception. It also takes time to take root when it is argued successfully, and is contingent upon current research trends and scientific 'meta-narrative' (Nowotny, Scott *et al.*, 2001).

8.2.1.1 Continuum of design-inspired frameworks

Design-informed frameworks are one of the channels in which *design* rhetoric imprints itself onto organisations. Those frameworks, theories, methods and tools could be attributed to different kinds of professional values and motivations. Their characteristics and overall message rely, to a certain degree, on who the authors are, what is their chosen field of practice, and their personal agenda. Broadly speaking, and for the sake of clarity, the work can be mapped onto a continuum between two extreme categories (analogous to the ideal-types introduced in Chapter 2): (a) driven

by practical concerns and usually advocated by professional designers, (b) driven by epistemic concerns, usually driven by non-professional designers (see Table 8.1). The ideal-type descriptions of the frameworks proposed by (a) and (b) suggest that the former is more concerned with practical advice which concentrates on achieving particular results, is usually heuristic and unstructured, and uses evocative and emphatic rhetoric. The latter, on the other hand, is engaged in more philosophical debate which seeks structuring devices, methodical tools and uses logical-descriptive rhetoric (see also Appendix F which compares artistic and scientific research methods as an analogy to this example).

Frameworks, including: epistemologies, theories, methods, processes, techniques, tools etc.

Driven by *practical* concerns
(usually by professional
designers)

- practical and immediate
- concentrated on achieving particular results
- heuristic
- evocative and emphatic rhetoric

Kelly (2001) (IDEO)

- design process often flexible and open-ended
- design tools: brainstorming, rapid prototyping, shadowing, observation etc.

Olins (1995) (Wolff Olins)

- totally integrated and coherent branding, emotional and evocative content etc.

Marzano (1999) (Philips)

- ambient intelligence

(Peto, 1999)

- random nature of design
- importance of 'accidents' & errors in design process

Schön (1983)

- reflection in action
- conversation with materials and situations

Papanek (1971) and Manzini (1995)

- ethical conduct of designers
- environmental consequences of designers' work

Alexander (1977)

- pattern language

Cross (1992; 1996)

- design thinking and design intelligence
- design methods

Cooper and Press (1995; 2003)

- policies informed by design
- design's role in economy

Driven by *epistemic* concerns
(usually by philosophers,
economists and organisation
science scholars)

- philosophical
- concentrated on achieving understanding and conceptual distinctiveness
- methodical
- logical and descriptive rhetoric

Simon (1969)

- 'natural' and 'design' sciences
- bounded rationality

Romme and Van Aken (2003a; 2004; 2005)

- epistemology and research methods informed by design

Weick (2004)

- organisation design

Csikszentmihalyi (1981; 1996)

- self identity and designing

Dewey (Dewey, 1934; 1991)

- design, culture, experience, learning

Table 8.1 Continuum of design-inspired frameworks

As it is not the aim of this study to discuss the above frameworks comprehensively, and also because they cover a wide range of separate scholarly conversations, I decided to briefly signal what is currently being debated with respect to design by bringing forward *two distinct examples*. The first case concerns a recent and arguably most visible presence of design-inspired frameworks in the mainstream management debate championed by Romme and Van Aken. Their work taps into the discussion around the ‘relevance gap’ in management education. The second example is related to the publications and frameworks proposed by California-based design consultancy IDEO, considered ‘the world’s most successful design firm’ (Byrne and Sands, 2002: 55). The former represents perhaps how many contemporary organisation science scholars will be introduced to *design*, the latter is a work aimed at practitioners focused on creating environments which support innovation.

8.2.1.2 Design as a theoretical remedy for ‘relevance gap’ in organisational research – considerations in the light of cultural perspective and earlier discussion

A number of scholars have been involved in the recent discussion around the inadequacies of management academia and research (see: Tranfield and Starkey, 1998; Huff, 2000; Huff and Huff, 2001; Starkey and Madan, 2001; Aram and Salipante Jr, 2003). The debate on the relevance of academic outcomes in the field of organisation and management dates back to late 1970’s (Susman and Evered, 1978) and was already a subject of a special issue of Administrative Science Quarterly in 1982 (Beyer, 1982) and other scholarly publications (see: Van Aken, 2005). This discussion has been re-ignited by the release of the book by Gibbons *et al.* (1994) titled ‘*The new production of knowledge*’⁶.

⁶ Even though the book deals with the changes in science and technology it has informed the management field markedly. In it we find an argument which juxtaposes two kinds of knowledge production modes – so called ‘mode I’ and ‘mode II’. The former can be summarised as the pursuit of ‘scientific truth’ by ‘scientists’. The emphasis here is predominantly on positivistic epistemologies but other traditions, even postmodernism, are also included in ‘mode I’. Mode II on the other hand deals with the co-production of knowledge by predominantly multidisciplinary teams in context of application Nowotny, H., Scott, P. and Gibbons, M. (2001) *Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty*. Malden: Blackwell Publishers Inc.

Despite the fact that this debate is not *per se* central to this thesis, an important link lies within it concerning contemporary understanding of the impact of design-inspired theories on mainstream organisational research and education. This connection is provided by the work of two scholars – Romme (1995; 1997; 1999; 2003a; 2003b; MacIntosh and Romme, 2005) and Van Aken (2004; 2005). Both authors draw on seminal work of Simon, Schön, Argyris, Gibbons et al. in their attempt to introduce (or reintroduce) the ideas stemming from the interpretation of organisation science as a ‘design discipline’ rather than ‘natural science’ or ‘humanities discipline’ (Romme, 2003a). They also propose the design-based concept of ‘field-tested, grounded technological rules’ (Van Aken, 2004).

Reading Romme’s (2003a) paper we find emphasis placed on the ‘organisation as science of design’, with features such as: (a) solution finding based on pragmatic epistemology of Peirce (1992a; 1992b), (b) support by ideal target systems approach and design propositions, (c) focus on producing actionable knowledge, (d) incommensurability between design, science and humanities modes of research.

Natural sciences and *humanities* as the current role models for organisational research (Romme, 2003a: 558) are reminiscent of the distinctions and divisions discussed in design methodologies (see Chapter 2). Romme suggests a third way (design science) for organisational studies despite the fact that in the mainstream design studies, there is a lack of fundamental, philosophical agreement with regards to the very essence of design method(s). In doing so, he argues that organisational research mainly draws on humanities where knowledge is constructivist and narrative in nature, and natural sciences where the goal is to study variance among variables and test propositions derived from general theories. *Science* and *design* focus on the same objects but approach them from different epistemological positions (*ibid.*: 560). One looks at the empirical objects which could be described, the other as ‘artificial’ objects which should be changed. The former is representational, the latter transformational.

Romme builds on Simon’s (1969) acclaimed book and grounds his arguments in pragmatism as the underlying epistemological stance. He argues that the ‘design’ approach enables the production of knowledge that is both actionable and open to

validation, hence overcomes Pettigrew's (1995) 'double hurdle' of 'embeddedness in the social sciences and the world of policy and practice' (*ibid.*: 25).

It is important to note that *design* in Romme's (2003a) argument will not have the same meaning as the word *design* in, for example, Cooper and Press's (1995) explorations, being conceptually wider and including epistemological considerations.

Since Romme sees a design-based model and a natural science-based model as irreconcilable he proposes an *interface* between them. *Design propositions* are the equivalent of knowledge claims in science-based research. He cites Van Aken (2004) who suggests developing tested and grounded design rules with alpha and beta testing of *design propositions* (Romme, 2003a: 567-8):

The design-science interface should focus on design propositions developed through testing in practical context as well as grounding in the empirical findings of organizational science. This type of research would enable collaboration between the design and science mode, while it would also respect some of the methodological differences between the two modes. (*op. cit.*)

In addition to Romme's argument about the incommensurability of design and science mode of research on an epistemological level it could be argued that similar incommensurability is observed on a cultural level. The groups of people practising design and science approaches are guided by fundamentally different values insofar they have usually gone through different socialisation processes. As previously stated, they share different role models and have different value sets. Romme points to a number of professionals as the representatives of the 'design' professions including *engineers, designers, managers* and *medical doctors* (2003a: 589). By doing so he takes an integrative approach and omits a significant cultural variation between those design professions which in their 'professional project' have leant towards natural sciences and fine arts as levers for social recognition. As was argued in Chapter 2, these two groups of design professions, particularly *design* and *engineering* in the UK and US, have followed separate educational routes. Engineers align themselves more closely with objectivist values of how to behave and think (see table 2.1 in Chapter

2). Therefore if one wishes to uphold the demarcation line between *science* and *design* they should also take into account the sociological differences characterising groups of people who practise the two modes.

The choice of role models such as computer science, medicine and aeronautics (Romme, 2003a; MacIntosh and Romme, 2005) for 'design sciences', although a step away from the natural science-based mode might be linguistically, socially and contextually problematic. For example, all three are first and foremost about safety which implies a strict measures of control, predictability of the system and obvious conservatism in this sense. This goes against what was described Chapters 3 and 7 as the fast-moving, generally risk-taking, opportunity-seeking approach of professional designers. In addition, those three deal with fairly stable systems of interdependent and usually well-known variables, whereas management and organisation science deal with those plus complex and dynamic relationships between human agents. The authors themselves see this problem in their argument (MacIntosh and Romme, 2005: 5-6). On the communications level, using the example of other 'design sciences' might be targeted to make the notion of 'organisational sciences as design' more acceptable to orthodox managers. It does not however, give due credit to the uniqueness of design's own knowledge and value systems.

Design propositions as suggested by Romme might be effective when the parameters of a situation are known in advance but might not be entirely suitable for the bread-and-butter of design, namely the 'wicked problems' which defy simplification and are extremely difficult to pin down (see: Rittel, 1972; March, 1976; Buchanan, 1992; Cross, 1995). The challenge is to use metaphors which avoid simplifying the nature of the design domain yet are useful in conveying the message to mainstream organisation scholars.

Design propositions (MacIntosh and Romme, 2005) are, in other words, communication devices between practitioners and academics prior to being 'validated' and established as 'design rules' (*ibid*: 6). This line of reasoning comes back to the point where 'grounding-and-testing' is the priority and reaching some degree of generalizability is essential. This could be interpreted as a 'science trap'

since if we talk about generalizability we return to the ‘science mode’ and are no longer concerned with ‘creating new rules’ but rather applying the ‘known rules’. In other words – do what we preach (apply our design rules – which are grounded and field-tested) but do not do as we do (start off with vague design propositions). This in itself contradicts the argument about the uniqueness of the design approach. If one wishes to be consistent with the ‘design mode’, whereby it substantially differs from the ‘science-based’ (generalisation required, validation through refutation) and ‘humanities-based’ (narrative and description driven) modes one needs to accept the context-specific method which derives from the ‘wicked’ nature of its problems. Hence, as the condition of the design profession shows, design mode does not require rules, but rather aesthetic, symbolic, technical, economic and environmental guidelines. Buchanan (1995) calls those ‘principles of design’:

The principles of design are grounded in spiritual and cultural ideals, or in material conditions, or in the power of individuals to control nature and influence social life, or in the qualities of moral and intellectual character which stand behind the integrative discipline of design thinking and the productive arts. Such principles are presupposed and pre-existent in the concerns of each designer. They are expressed as theses, maxims, or slogans to guide practice, and their elaboration and adaptation to new circumstances is a process of discovery. (*ibid*: 29)

Despite the fact that ‘no rules’ might sound as too post-modern a concept for some, the way in which it is acted upon by professional designers proves it is plausible. In that sense, it seems, it is a radical departure from the ‘natural science-based’ and ‘fine arts or humanities-based’ mode. *Openendedness* and *unconfined exploration* (see Chapter 7) stem from the ability and willingness to work in a situation of blurred rules and boundaries, where *wicked problems* are the norm and the world around is *polysensorial* and *multidimensional*. Those ‘fluid’ conditions are mediated by the ‘ways of doing things’ and particular behavioural standards and values of professional designers. Every designer I interviewed would concur that they first and foremost want to rewrite rules and not to follow them. It could be argued that once we have established a set of rules they will find their engagement confined as it would be to

scientific description and predictability imperatives. Hence, in the very nature of rules is hidden their refutation as something different to scientific approach. Even though the argument raised by MacIntosh and Romme (2005) appears to be different to scientific ‘testing’ and ‘grounding’, the language and underlying intent mean the approach has the same aim – the creation of validated rules applicable (after adaptation) to a particular context. If, however, there is a genuine search for ‘qualitative novelty’ the rethink of the use of ‘rules’ is needed (Romme, 2003a: 558).

Both Romme and Van Aken draw heavily on the rhetoric of ‘*design science*’ originating in Herbert Simon’s ‘*Sciences of the artificial*’ (see discussion in Chapter 2). Introducing it as *design science* arguably makes it more palatable to the management journal reviewer and also to the target audience but it may pose interpretive problems later on. If the ‘science’ rhetoric were to persist, the inevitable scrutiny will follow, questioning the validity of the claim. As was shown in Chapter 2, these claims have run through the history of scholarship in design (see: Broadbent, 2002) and could be viewed through the lens of a social project and cyclical rises and falls in the pursuit of designers’ professional status. One could envisage a situation where the management research community will be asking questions about the nature of the ‘*design science*’ based on the various epistemological paradigms present and conclude, as the design community has been doing, that *design* and *science* do not willingly go hand-in-hand.

In my view, an additional and fertile approach to introducing *design* into organisations, organisational research, and subsequently into management practice, is through the two other channels of design’s influence – *outcomes* produced by professional designers and *designers* themselves. In addition to seeing design rules and propositions as mediators between design and science modes, taking design professionals as ‘cultural interpreters’ may be beneficial. In doing so, one can circumvent the many theoretical challenges with regard to the *scientific* dimension of design which have caused a considerable headache to design scholars and practitioners alike in the last fifty years.

8.2.1.3 *Commercial design process as a practical design-inspired framework – lessons from a design-intensive company*

An alternative set of *frameworks inspired by design* is proposed by design practitioners from IDEO. Here we find a source of practical inspiration on how to create a culture in which innovation flourishes and product and process boundaries are being re-written. Instead of focusing their attention on epistemological clarity and academic soundness, authors such as Kelly (2001) introduce ways in which designers at IDEO successfully collaborate. Since it is mainly a case study ‘story’ it remains a *framework* which could be advocated, argued, persuaded and eventually adopted by practitioners with greater or lesser enthusiasm.

A major part of the IDEO ‘storyline’ is the ubiquity of their design process (see Figure 8.2). It has not only been highlighted by the founders and managers of the company (see: IDEO, 1991; Kelly, 2001, General Director IDEO London - own interview) but also discussed by various commentators (see: Myerson, 2001; Nussbaum, 2004). In itself, the process creates a backbone for the innovation mechanisms and is used to focus project leaders’ attention. Myerson (2001) reports one of the founders of IDEO as saying:

At IDEO we have steadily moved away from a sequential idea of design process towards a set of values which contribute to a rich design & innovation culture. These values provide a framework within which *chaos, risk, experimentation, innovation* and *vision* can thrive. [italics added] (*ibid.*: 91)

However, as a Managing Director of IDEO London acknowledged in an interview, this process is an important galvanising tool for designers and other professionals working on projects (interview with Managing Director IDEO London).

The process, or as Kelly (2001) calls it ‘methodology’, has five basic steps or parts: (a) understand, (b) observe, (c) visualise, (d) evaluate and refine, (e) implement (*ibid.*: 6-7). It is also presented as: (a) observation, (b) brainstorming, (c) rapid prototyping, (d) refining, (e) implementation (Nussbaum, 2004: 89).

Observation – understanding

Usually the first step in the process is aimed at trying to understand the situation. Here designers utilise one of the most effective customer research tools, namely observation (for more in-depth discussion on anthropological methods and design, see Squires and Byrne, 2002). Instead of asking the customers what they want, IDEO use *empathy* whilst engaging directly in a number of ways. Together with cognitive psychologists, anthropologists, sociologists they use a number of techniques to aid the process. These, for example, include:

- *Shadowing* – whereby people are observed whilst using products, going to hospitals or shopping
- *Behavioural mapping* – which involves recording peoples' movement and behaviour in a given space over a couple of days
- *Unfocus groups* - interviewing diverse groups and studying their reactions to the existing products (adapted from Nussbaum, 2004: 89).

In a turbulent business environment there is no time to conduct a fully-fledged ethnographic study. Instead, people in IDEO use simplified design-ethnography to rapidly achieve their aims in a 'quick-and-dirty' process of product development: 'We have no time for detailed scientific studies at IDEO, nor does most of the rest of the business world. We aren't interested in hundreds of carefully qualified users filling out detailed forms or sitting in focus groups' (Kelly, 2001: 38).

The realisation that we live in an *experience economy* (Pine and Gilmore, 1998; 1999) does not surprise ethnographers who have been making this point for a substantial period of time (Sherry, 2002). It however takes professional designers such as those in IDEO to reinterpret this academic and commercially alien specialism into a useful business tool. They provide a bridge between the culture and the company like no other profession within a firm's framework (Dawson, 2002). Designers willingly *engage personal and commercial empathy* in order to gauge clients' reactions and create a counter weight to treating 'customers like statistics' (Kelly, 2001: 41).

Brainstorming

At IDEO brainstorming follows observation and understanding as the first step in generating potential avenues for exploration. It is thought that brainstorming '[...] is not just a valuable creative tool at the fuzzy front end of projects' (*ibid.*: 5), but also an important *cultural engine* (Sutton and Hargadon, 1996). The skill of brainstorming is evidently an important ingredient but what perhaps is more important is the intensity, playfulness and pervasiveness with which brainstorming is practised at IDEO: 'brainstorming is practically a religion' says Kelly (2001: 55).

There are a number of rules of brainstorming which the members must adhere to. These are:

- (a) defer judgement and do not dismiss any ideas
- (b) build on the ideas of others
- (c) encourage wild ideas / be playful
- (d) be visual / get physical
- (e) stay focused on the topic
- (f) one conversation at a time (adapted from Nussbaum, 2004: 89).

These rules appear to instil values and attitudes which were mentioned in the previous Chapter. The most visible connections are between: *embracing discontinuity and openendedness* (a, c), where freedom to think and behave differently is encouraged and *engaging polysensorial aesthetics* (d), where visual discourse is valued and expected.

As a matter of fact, these brainstorming rules could be interpreted as Van Aken's *design rules* or Romme's *design propositions* guiding the behaviour in the company by obtaining a field-tested validity (IDEO's innovation track record and the internal importance of brainstorming). Kelly's rules, with regard to what kills brainstorming sessions, could be seen as *design rules*. These are: (i) the boss gets to speak first (possible *design rule* – for an effective brainstorming session do not allow the boss to speak first etc.), (ii) everybody gets a turn, (iii) experts only please, (iv) do it off-site, (v) no silly stuff, (vi) write down everything (Kelly, 2001: 66).

An ethnographic study carried out by Sutton and Hargadon (Sutton and Hargadon, 1996) showed six consequences of brainstorming at IDEO:

- supporting the organisational memory of design solutions
- providing skill variety for designers
- supporting an attitude of wisdom (acting with knowledge while doubting what one knows)
- creating status auction (a competition for status based on technical skill)
- impressing clients
- providing income for the firm (*ibid.*: 685).

Rapid prototyping – visualising

Prototyping and physically making things has a special place in IDEO's culture. I also observe this to be the case in other design-intensive organisations. Therefore, one of the categories identified in the professional design culture is called *creating, bringing to life* and includes *rapid prototyping*, preference for *working with tangibles* and willingness to *creatively manifest* ideas.

Kelly (2001) writes that prototyping is 'both a step in the innovation process and philosophy about moving continuously forward, even when some variables are still undefined' (*ibid.*: 5). In this respect it gives a sort of visual and tactile guidance in the mode of action based on *discontinuity* and *openendedness*. It is clearly an encouragement to *reflect in action* and 'listening to the situation back-talk' (Schön, 1983). On a deeper level, experimentation with prototypes is the heart of the moment when creative and emotional tensions are being resolved. As John Dewey writes:

With the realization, material of reflection is incorporated into objects as their meaning. Since the artist cares in a peculiar way for the phase of experience in which union is achieved, he does not shun moments of resistance and tension. He rather cultivates them, not for their own sake but because of their potentialities, bringing to living consciousness an experience that is unified and total. (in: Eickmann *et al.*, 2004: 241)

In Kelly's view 'Quick prototyping is about acting before you've got the answers...' (Kelly, 2001: 107). In fact it creates answers and new questions at the same time by helping to crystallise the solution step-by-step. It is more evocative than pictures (*ibid.*:112) and helps in decision-making (Nussbaum, 2004: 89). The activity of prototyping is as much about solving already known problems as it is about making accidental discoveries. It seems plausible that the momentous discovery of DNA was helped by making a 3D model of the double helix by Crick and Watson (*ibid.*:109).

The process usually does not follow a predetermined pattern. 'We don't care if we sometimes go down the wrong routes, so long as we eventually arrive at the right product,' emphasizes Kelley (in Myerson, 2001: 48). This statement again links closely with the category *embracing discontinuity and openendedness*. In this case the fear of not knowing *what* or *how* to reach it gives way to an eager acceptance of the likelihood of blind alleys and mistakes. The (temporary) loss of control is acknowledged and embedded in the culture.

Those three elements: *observation*, *brainstorming* and *prototyping* states Kelly, are 'the fundamentals, the reading, writing, and arithmetic of innovation' (*ibid.*:121). The remaining parts of the process such as *evaluating - refining* and *implementation* borrow from the three basic elements and are more instrumental. Nevertheless, these are also of great significance, since the final outcome depends on the quality of input during those phases.

In addition, IDEO studios subscribe to the set of underlying principles known as FLOSS where 'F stands for Failure, meaning don't be afraid to take risks; L stands for Left-handed - remember that not all users are like you; O stands for Out there - don't just sit at your desk; S stands for Sloppy - prototypes don't need to be perfect; and the final S for Stupid - don't try to be too clever or presume you know it all' (Myerson, 2001: 31).

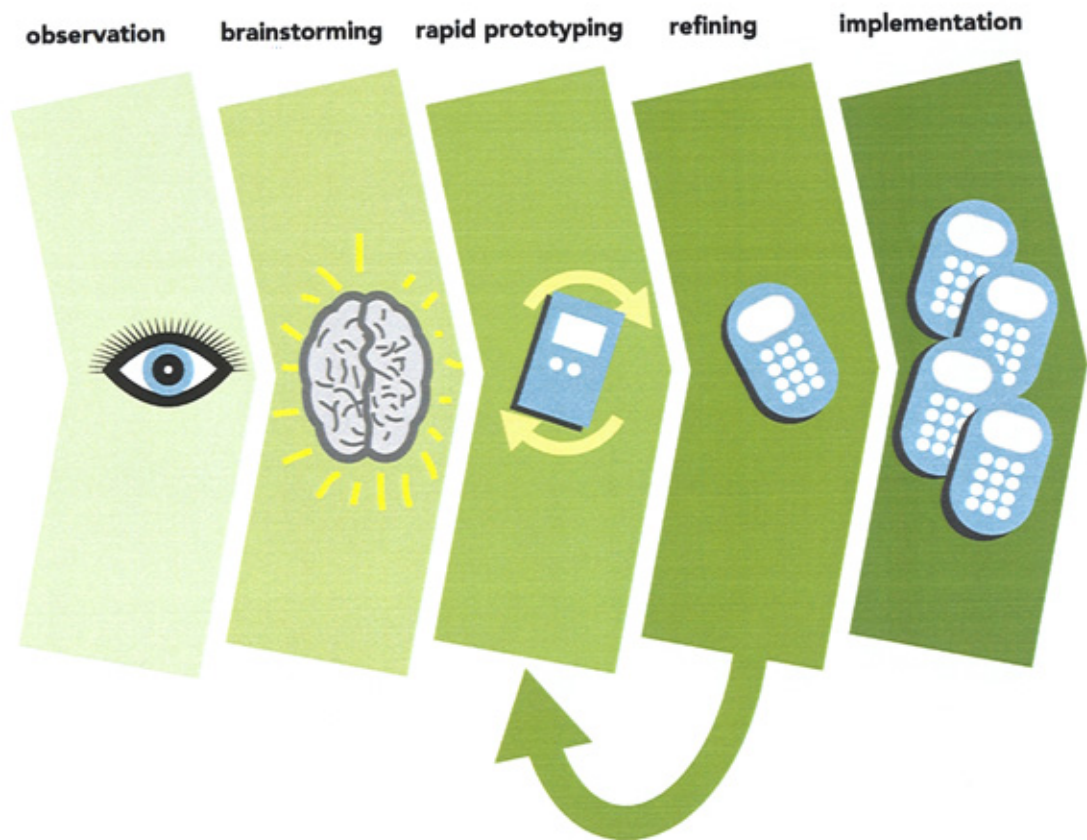


Figure 8.2 Design process at IDEO

Both examples of design-inspired frameworks – the former academically-driven and the latter aimed at practitioners – attempt to persuade the audience to pay more attention to issues concerning *design*. Yet both do so differently and send different messages as to what constitutes the *design approach* and how to go about implementing it. Arguably IDEO's approach is more closely linked with the *professional design culture* (admittedly also because IDEO was one of the companies participating in the study), whereas the other, more theoretical example lies further away from it. Hence one of the ways in which to judge and analyse the frameworks that subscribe to *design* as their focal point might be on the basis of their relationship with the professional design culture and its members. The values of *openendedness*, *exploration*, *bringing to life*, *polysensoriality*, *consolidation of meanings* and *personal and commercial empathy* will most likely be displayed and encouraged by those who have been a part of this particular professional culture. It is not inconceivable to see those values expressed and advocated by a different group, even organisation science academics, but this appears unlikely.

8.2.2 Outcomes

A second 'channel' through which *design* makes its mark is by the *aesthetic* (non-cognitive), *symbolic*, (cognitive) and *physical* (ergonomic, economic and ecologic) powers of the *outcomes* professional designers create. Those include the visible and tangible artefacts, logos, spaces and environments, as well as the intangible *cultural components* such as brands, experiences and fashions (Olins, 1995; Gobé, 2001). Outcomes have substantial evocative powers and in a direct way influence all consumers/users (as external recipients of designers' work) and employees (as internal actors within the 'aesthetic' and symbolic dynamics inside organisations) (see: Gagliardi, 1990; Strati, 1999; 2000). Unlike in *theories*' and *frameworks*' case, the impact of the *outcomes* of designers is instantaneous. They have the capacity to imprint themselves onto a particular culture (Dormer, 1997; Julier, 2000) or shape the inner-workings of an organisation. As Gagliardi (1990) argued, artefacts and spaces that surround us are not just an expression of deep underlying assumptions (as in Schein's (1992) view) but, rather, equally shape how cultures are carrying deeply symbolic meaning. For example, a particularly configured workplace such as the one at IDEO (Kelly, 2001) might not only be an expression of the creativity of the people working there but might also be the catalyst for innovation (*ibid.*:121). Even though the research in this field is very limited (Martin, 2002; Haner, 2005) one could envisage a situation where a uniform and inadequately configured office will have an impact on the lack of innovation and vice versa, given those spaces are 'genuine' and not just seen as a *fun* environment⁷. This category of influencing and interfacing agents also includes the ergonomic dimension. There are considerable gains available if the quality of ergonomics of a workplace are carefully attended to by designers (Cooper and Press, 1995: 61; see also Myerson, 1998).

There are a number of sub-fields dealing with how the products interface and how they interact with customers and culture (Heskett, 1980; Csikszentmihalyi, 1981; Norman, 1988; Heskett, 2002). Areas include: product semantics, product semiotics, product interaction, interface design, communication design, human factors all

⁷ This point regarding authenticity was made by the Managing Director of IDEO London when describing one failed attempt he witnessed at a management consultancy.

address the outcome-user connection. An extensive literature on evocative and culturally significant products can also be referred to (see: Sudjic, 1985; Forty, 1986; Juller, 1993; Woodham, 1997). From the viewpoint of the argument presented in this thesis it is important to illustrate how the professional design culture moderates the production of those outcomes.

8.2.2.1 Design culture as mediator in product development process

Products, services, brands and experiences are *symbolic, aesthetic and physical* mediators between designers, organisations and internal and external customers. Taking those constituent elements apart is a standard procedure in virtually any design process; however it appears *professional designers* are uniquely positioned to be able to bring those elements together in a unified and coherent package (*consolidating multidimensional meanings*).

It is professional designers' ability and willingness to engage on these immediate and cultural levels that make them arguably the most adequate agents to interface between the firm's internal and external customers and the outcomes offered to them. Buchanan (1995) states:

Designers construct objects to satisfy fundamental human needs that are susceptible to some level of scientific or engineering analysis. However, the constructions are inevitably complicated by arbitrary factors of taste and preference which the designer is often able to address only by emotional sensitivity and intuitive understanding. Design is based on science, but it extends its reach in addressing emotional needs through aesthetics. (*ibid.*: 55)

The way in which professional design culture mediates in the creation of *outcomes* can be explained by reviewing two models of product development process (PDP). In Model I (see Figure 8.3), design and designers are seen as tools in managers' hands. Their assigned (or assumed) cultural role is to act upon a design brief, usually created and provided by the marketers (Bruce and Bessant, 2002). In Model II (see Figure 8.4), they are integrated into the process in the early stages of the PDP as well as the

later stages of it. The former arrangement inserts a cultural filter in the form of manager's perceptions of the culture and customers' multidimensional needs. The latter case brings designers' closer to the users, thus enabling their professional culture to leverage company's market sense.

In order to explain the key differences between the two models, 'levels of cultural distortion' postulated in the Model I are discussed. The role of designers' culture in addressing *operational* (level I) and *strategic* (level II) cultural distortions is described. Tentative evidence supporting the existence of such an arrangement from Nissan and Apple is given to illustrate the argument.

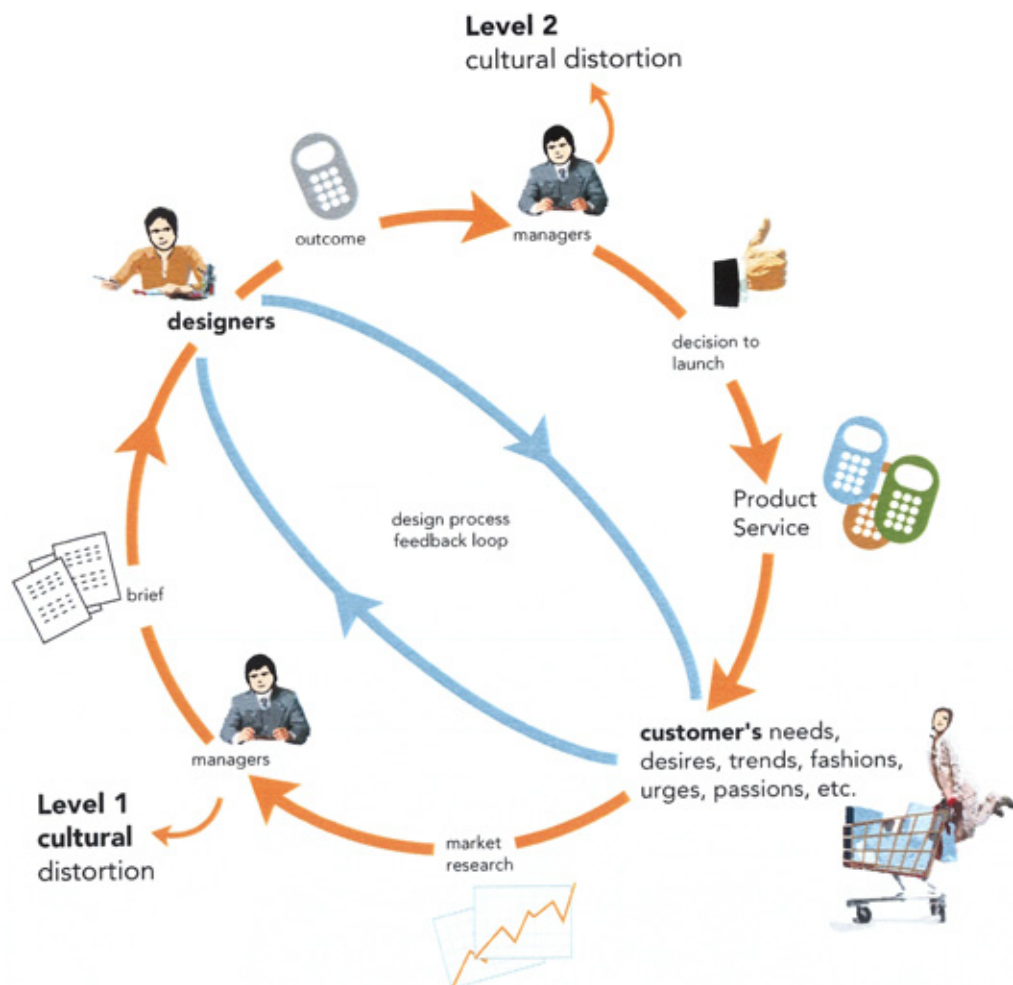


Figure 8.3 Model I product development process – professional design culture organisationally subordinate

8.2.2.2 *Level I cultural distortion*

Level I cultural distortion – operational (involved in particular in early stages of the product development process, interface between the company and its customers). In this instance the professional design culture provides more cultural ‘points of contact’ with the users, broadening the base for potential innovation. Peto (1999) writes: ‘First we desire then we rationalize’ (*ibid.*:15). Designers are used to *empathising* and connecting on *multidimensional levels* with the members of the culture who also happened to be consumers of products and services. They *consolidate* the layers of product and suggest a new/modified ‘piece of culture’. These are the circumstances (such as various *observations* described in IDEO’s practices) through which the culture and customers’ experiences are being deciphered. As opposed to marketers, designers give this process more depth. Instead of seeing clients as statistics and abstracted socio-economic groups (Sherry, 2002), they connect with their needs and desires on a more direct, personal and emphatic level.

Morello (1995) juxtaposes two categories of users and consumers. The former is *the subject who uses* and the latter is *the subject who chooses for use*. On the basis of a deeper understanding of the needs of consumers and users he calls to rethink and redefine market research methods to incorporate the attitudes of both [*italics added*]:

If ‘design’ is defined as a complex of projectual acts intended conceive products and services as a whole, the only way to design properly is to have the user in mind; and the role of marketing (*a new marketing*) is to have in mind the true project of the consumer, which, paradoxically, is not to consume but to be put in the condition to use properly. (*ibid.*: 70)

In the process of designing, designers use cognitive, sensory and emotional probing to gauge the situation (Woodhusyen, 1990). In a sense, by acting in this way they unknowingly perform the role of organisation’s *rapid ethnographers*. However, their focus is not on describing cultures, as it is in ethnographers’ case, but rather on creating elements of new ones (Sacher, 2002). If the bond between the company’s intent, designers and customers is interrupted by ‘two-dimensional’ manager’s

interpretations, a brief that is created and goes to designers is devoid of important content which might yield innovation. Bruce and Bessant (2002) while discussing the connections between designers and marketers, write: 'Often project failure [...] is the result of the failure to provide design with adequate information about the target market' (*ibid.*: 83). This consequently results in designers being briefed 'second hand', where the process becomes 'Chinese whispers' (*op. cit.*). This scenario is presented in Model I (Figure 8.3). In many organisations, especially those that have heavily relied on technology, market research information tends to be presented in qualitative form (*ibid.*).

Design culture 'injected' directly into the space between the customer, and organisation stimulates a more profound way of looking at innovation. This assertion is directly linked to the characteristics and cultural themes presented in Chapter 7. For example, designers, by *engaging polysensorial aesthetics* and *personal and commercial empathy*, are able to achieve an intimate and multilayered sense of what the client may want to use and buy. Being able and willing to use gestalts and images of the experiences, they can connect with users on a human level. Their positive attitude towards *ambiguity and openendness* prevents them from jumping too quickly to conclusions and creating too narrow a brief.

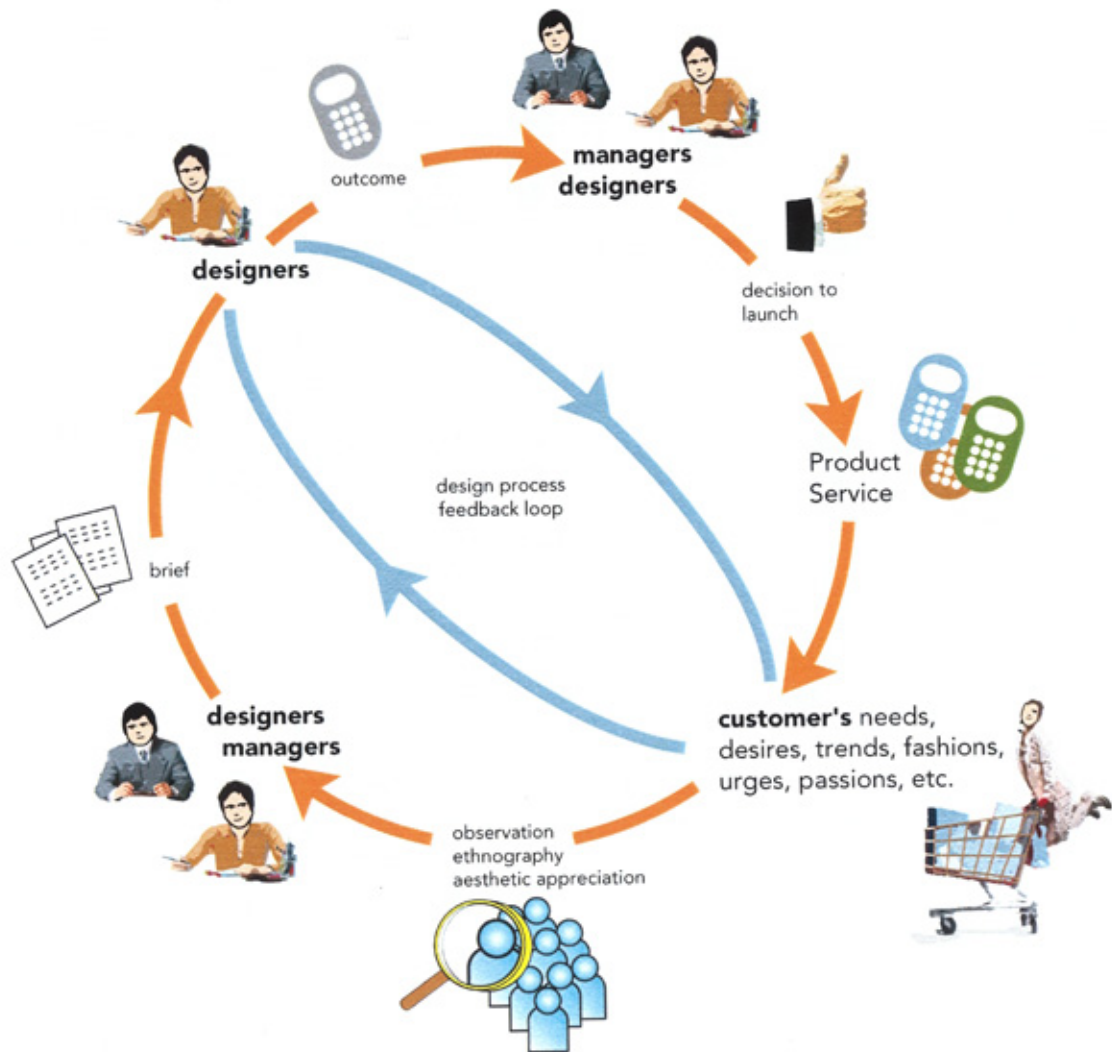


Figure 8.4 Model II product development process – professional design culture integrated

8.2.2.3 Level II cultural distortion

Level II cultural distortion – strategic (involving resource allocation, product launch decisions, general strategic direction etc.) – On the strategic decision making level where issues such as, which product to support, with what features and so on are being decided, there exists a danger of missing the outcome-culture fit once more. Instead of delivering product/service/experience that ‘connects’ with the user, there is a substantial chance that because decision-makers lack (or are reluctant to use) multidimensional and aesthetic appreciation, they will follow purely qualitative guidelines (see for example Strati, 1999). This in turn might produce a product that looks ‘great on paper’ but fails to deliver in the market place. The opposite situation

appears to be true when professional designers and their culture are directly involved in making those strategic choices. Two examples I have come across in my research suggest strongly that such involvement can have far-reaching and positive consequences on organisation's performance through producing culturally 'compatible' outcomes.

The first example involves a product launch decision at Apple Corp. Jonathan Ive (Vice President Design, designer behind iPod project), when asked how decisions on the strategic level are made at Apple responded by describing a story of the recent product launch (own interview with Jonathan Ive). At a certain point after a lengthy and costly product development process, a team consisting of senior executives, including top designers, was faced with a decision whether to launch or not. According to Ive, there was not a visible person who solely was making the decision (it might have, for example, been the ubiquitous CEO Steven Jobs). With a considerable pressure on time and resources, the team made the decision not to launch. In Ive's own words the reason given was simple yet profound: 'the team didn't feel the product connected with the audience' (*op. cit.*). Such aesthetic criteria are known to be the basis of major investment decisions (see recent investigations: Ramirez and Arvidsson, 2005) but in this case highlight the involvement of designers in making a strategic contribution. It would take additional study to establish how widespread this practice is and indeed are the consequences similar or different depending on the industry, size, configuration etc. But with a degree of plausibility one could suggest that without such a model of decision-making, Apple would not be able to design and launch an extraordinarily successful product such as iPod. The fact that it has become a cultural icon may have something to do with both issues – who designs and gathers client information and who decides to launch based on what criteria.

The second example concerns Nissan. Here two pieces of tentative evidence suggest that design culture may be a very significant element in producing better-than-average products which translate into financial gains. It has been recently reported in the press (Kiley, 2005) that Nissan is the only car manufacturer in the US, apart from GM, that gained market share in the year 2004. It has also obtained an

operating profit margin of about 10%, compared to BMW (6.9%) and Toyota (9%) - two industry models for profitable sales growth (*op. cit.*). The same article reports that the decision to launch one of the car models, Sentra, has been postponed due to CEO's lack of conviction with the 'execution of its design'. This information can be linked with evidence from Nissan's Senior Designer. In an interview he stated that after establishing the partnership with Renault, the internal position of design and designers has been steadily rising until reaching the current high level. What follows is a telling excerpt from a conversation which illustrates the shift from Model I to Model II which took place in Nissan. It also demonstrates how the professional design culture presents itself in Nissan.

Interviewer: designing in Nissan, in general, is it taken seriously?

Interviewee: very much so, more then ever because since the alliance with Renault there's been a drastic shift from a more engineering-oriented company to more design-oriented company. Everything that we communicate in the media, motor shows, through the products we launch, wants to convey the message that it's about strong innovative design but with a thoughtfulness behind this, so always keeping in mind the customer benefits and the customer expectation..

Interviewer: how about internally, has it changed internally in terms of people's behaviours, attitudes?

Interviewee: absolutely, I was in Nissan 10 years ago and I'm with Nissan since the alliance and I've seen a drastic change. The fact that we are here in the heart of London is one. There is no other car maker today who has a facility in heart of such a major European City and its not just coming up with the ideas, we are bringing cars into production. [...] And the mentality has changed..., an awareness I would say that, the previous brand identity and the design we were communicating on the market was inadequate. There was a gap between the trend and were we were [comment: this can be interpreted as an expression of cultural misfit between the product and its markets, which is a consequence of the dynamics in model I]

Interviewer: so Renault brought a bit more of design awareness...

Interviewee: definitely, I think right from the top managers, the CEO Carlos Ghosn, and the executive Vice President clearly set some goals to be taking a lot of attention to the design, aesthetic of the car, but not just aesthetic, the quality involved. Then we have the perceived quality department in our studio.[...] We are working much closer with the engineers. We were.... *Engineers used to dominate designers in a way, psychologically and intellectually. They would impose some solutions that were non-negotiable. But now it's different. We have to sit down together.* [comment: this sentence is another example which shows how the design culture contributes to Nissan and also further validates the cultural discrepancies between engineers and designers discussed in Chapter 2]. (own interview with Senior Designer, Nissan Design)

This excerpt provides an example of a transition from a product development process driven by technical parameters, and a process driven by potential solutions. It also demonstrates a shift of internal influence, from power being concentrated amongst engineers to more power being given to designers. This move has in addition been supported by establishing a Senior Vice President with a separate budget for design activities. In my understanding, there has been a major cultural change induced by Renault whereby professional design culture has been given a more significant position.

The following section engages in a discussion around the place of professional design culture in an organisation, in particular its links and relationship with marketers and the strategic dimension.

8.2.3 Designers

Designers as a professional group provide a 'channel' through which design makes a direct (social integration and socialisation) and indirect (*frameworks* and *outcomes*) impact on organisations. They do so by interacting with other professionals in an organisation on a social and decision-making level. Some of the consequences have

already been shown whilst discussing the impact on the product development process. Because the shape of the professional design culture has been discussed in Chapter 7, instead of duplicating its description I decided to draw a broader picture of how it fits into an organisational landscape. Two issues seem of particular importance here:

Firstly, the relationship between marketers and designers is considered. The reason for including it is two-pronged (a) designers are often subcontracted by the marketing function, hence are in close cultural contact with them, and (b) design in an organisation is, from a managers' point of view, often interpreted through the prism of marketing.

Secondly, the strategic dimension of incorporating a professional design culture is examined. In this instance examples of companies that successfully integrated designers into the heart of their culture are given.

8.2.3.1 The interface between designers and marketers - the problem of seeing design as a sub-function of marketing

The fact that design is in close proximity to and in a symbiotic relationship with marketing (Bruce and Bessant, 2002: 76) suggests analysing the interface between professional design culture and marketers is a viable starting point to investigate its impact on other professions within an organisation. Probing this allegedly close relationship should give some insights into how designers fit into management-driven organisational cultures.

Back in 1984, marketing guru Philip Kotler made a statement that design is misunderstood and under-appreciated as a *strategic marketing tool*. Many design management publications since have cited his article when discussing the strategic implications of design (Lorenz, 1990; Broja de Mozota, 2003; Press and Cooper, 2003; Ravasi and Lojacono, 2005). In Kotler and Rath's (1984) article *Design: A powerful but neglected strategic tool*, design is seen as a device in marketing's hands with

the unique capability to differentiate the product offering or, as Kotler puts it, to 'stand out from the crowd' (*ibid.*: 16).

The benefits of 'well-managed', 'high-quality' design according to Kotler are: (a) creation of corporate distinctiveness; (b) creation of personality for a newly launched product; (c) reinvigoration of product interest for mature products; (d) communication of value to the consumer; (e) entertainment and highlighting visual impact (*ibid.*: 17). Designers' role in this respect is to 'blend creatively major elements of the design mix' (*op. cit.*). These components include: performance, quality, durability, appearance and cost. This heavily marketing-centric approach has far-reaching consequences in relation to the place and status of design in an organisation.

Arguably, the single most important reason why design has failed to effectively communicate its message and true identity has been the full ownership of design in organisations exercised by marketing staff and within the marketing function. Design as part of marketing has no separate voice and is a subject to the governing values and rules created and interpreted by people in marketing. This interpretation for the last fifty years has been heavily influenced by marketing's utopian quest to become a 'real science' (Brown, 1996). As Brown admits in self-flagellating fashion, 'the heroic but utterly wrongheaded attempt to acquire the unnecessary trappings of 'science', a self-abusive orgy of mathematical masturbation which rendered us [marketers] philosophically blind, intellectually deaf and spiritually debilitated' (*ibid.*: 260). Here, whilst describing design use words such as 'optimisation of consumer satisfaction', 'design-tool', even the form 'to manage design' denotes a high degree of control and predictability. Design seen through the eyes of marketers is simply a device which should be managed to increase the visibility of the product. It also must be accountable and predictable along the lines of the 'scientific' expectations. If it does not then it is dismissed or deemed flimsy or fuzzy by the higher-ground marketing gurus.

Morello (1995), whilst discussing drawbacks of a marketing approach in addressing users' needs, points to consequences of maintaining competitiveness mainly through

product differentiation (the primary mode in which marketing uses design). These are:

- an overcomplication of performances
- the dominant idea that design is mainly a way to communicate
- the separation of product form from structure and the reduction of design to styling, an overdecoration of products (*ibid*: 72).

Seeing design as subordinate to marketing is so pervasive it has even penetrated the work of the key proponents of design as a unique contributor to corporations success (see for example Broja de Mozota, 2003). The function of design, as stipulated by Kotler, has been recognised as one of the three ways in which design inputs into an organisation. Instead of being 'strategic' as the author suggests, the approach could be better described as operational. Broja de Mozota outlined those three ways as: design as *differentiator* (here the Kotlers' view fits best), design as *coordinator* and design as *transformer*.

The problem with the jurisdiction of marketing over design is as follows: When looking at designing and designers through the prism of the marketing 'science quest' they do not appear as predictable, controllable, accountable, quantifiable and hence are deemed inadequate or subsequently seen as highly problematic. Taking them seriously also does not contribute to making marketing look more predictable and 'scientific'. This in turn brands design as 'arty' (with clearly negative connotations of being serendipitous and 'flimsy'). It consequently puts designers and design managers in the position where they have to defend themselves by coming up with excuses or better still refutations regarding their methodological 'flimsiness'. They feel the need to argue their case and to show evidence of accountable process, controlled tools and respectable behaviour. It is not, in my view, because they want to, in order to do their job, but because of their struggle for recognition and reward with the people who historically have had more say in organisations.

In order to contribute and create value, designers need to 'go through' the marketing 'gate keepers' (as those shown in Model I in previous section) who are influenced by values only partially compatible with those of designers. As it has been pointed out,

the relationship between marketers and designers can be conflictual and problematic (Lorenz, 1986; Bruce and Docherty, 1993; Roy and Potter, 1993; Thomas, 1993; Bruce and Cooper, 1997; Shaw *et al.*, 2002). Bruce and Docherty (1993) list the following problems which may exist between designers and marketers: (a) differences in goals and objectives; (b) misunderstandings and lack of agreement which leads to the rejection of each others ideas; (c) lack of trust, respect and cooperation; (d) different educational backgrounds; (e) different methods of working and the lack of common language; (f) lack of personal chemistry; (g) reluctance to be directed by someone outside their area of expertise. This long list of sources of conflict is indicative of the deep, underlying differences between those groups. The calls for more understanding and appreciation of each other by researchers, such as Bruce and Cooper's and Kotler's, fall largely on deaf ears. The reason, it appears, does not lie with the lack of willingness to learn from each other but from polarised political and cultural positions of the two groups. Design and Marketing have two different evolutionary routes. Design, as it has been argued in Chapter 2, after the industrial revolution followed the more art-oriented values in its quest for identity and relevance in society. Marketing, on the other hand, as part of the 'scientific management' tradition which was initiated by the likes of Taylor, Fayol, Bernard, followed the route of the 'scientific' values (Brown, 1996; Squires, 2001). It has only now entered the post-modern phase where an anti-science movement is observed. Values, beliefs and ways of thinking change slowly. One can assume that the old character of marketing will be showing for years to come.

Marketers can arguably be considered the closest representatives of the 'management camp' to designers. The similarities between design and marketing have even prompted some authors to state that they are the same thing (Thomas, 1993). This appears to be in stark contrast to what has been observed. Arguably, marketers are the 'interpreters' of designers to the rest of the organisation. By attaching their own interpretation they often misrepresent designers. Bruce and Bessant (2002) describe barriers to integrating design expertise. One of them is 'design illiteracy' whereby managers do not know what is involved in design activities, and do not have the experience to appreciate designers' contribution. The authors note that this fact in many cases may be led by 'design segregation [which] occurs in companies which

repeatedly outsource design expertise and therefore may have a tunnel view of what the design function is' (*ibid.*: 50). The outsourcing of the design function may have consequences going far beyond simple misunderstanding of designers by managers (I will discuss this in the next section). Other barriers to integrating design include high risk associated with design by managers; failing to acknowledge the potential benefits for strategy and growth; underappreciation of the value of creativity (*op. cit.*).

The ownership of *design* in organisations where professional design culture is not dominant most likely will belong to the marketing function. If this is the case, design is filtered through a different set of professional values instilled during formal education and on-the-job socialisation of marketers. Arguably, if designers are to reach their full potential as a professional group leveraging organisations' success, their voice needs to be liberated from marketers and reclaimed by designers themselves.

8.2.3.2 *Designers and strategy*

Bruce and Bessant (2002) write 'Designers play a key role in providing firms with raw materials for making decisions. If they are performing their proper function, they open "doors of opportunity". They help decision makers to explore alternative futures' (*ibid.*: 65). What is hidden in this statement which highlights positive contribution of designers to strategy formation is that designers are 'helpers' to somebody who is their superior and who makes strategic decisions. This view places designers as useful but somewhat lesser members of the strategic team. Broja de Mozota (2003) notes that design has an 'identity problem' when it comes to being successfully integrated into some companies. She writes that designers are often to blame for the opposition design meets in organisations (*ibid.*: 51). In their view, some designers want to create perfectly designed objects for markets where 'bad taste' does not exist. Moreover, Broja De Mozota criticises designers for being too eager to claim their strategic role: 'Designers are sometimes tempted to confound the strategic character of certain design projects with conviction that they can be strategists of the firm' (*ibid.*: 51). Her view is that the objective of the design

profession is to make the strategy visible and to 'help the firm to conceptualise [its] fundamental values' (*op. cit.*), not to take a leadership role in the company. Furthermore, designers are not prepared to work with management despite the fact that design education is changing to include marketing and strategy courses. Broja De Mozota remarks that 'creative' (*sic*) staff often cultivate an 'ego' but lack confidence and communicate badly (*ibid.*: 51). Her assessment of the reasons why design struggles to be fully integrated into a company mentions such factors as: a lack of design management courses and research policies with long term mission; young age of the design profession; small library of references; poor communication of methodologies by designers which creates a 'fuzzy' working environment (*op. cit.*). In order to embrace design: 'Managers need strong reference marks, reliable information and assurance that they will be able to finance design with security' (*ibid.*: 66). This statement demonstrates, in my opinion, the flawed thinking of managers rather than the inadequacies of designers. Firstly, 'strong reference marks' in a constantly changing market place do not exist, 'reliable information and 'security' of investment are as rare in managers' output as they are in designers'. The difference is in the 'style' and 'rhetoric' of presenting the 'security' and 'reliability'. In the designers' case, as it has been observed, this will most likely be dressed up in rather colourful clothes and playfulness (signifying to managers qualities such as flimsiness and unreliability). In the managers' case it will be much more professional looking (signifying reliability, stability and security). These culturally ascribed symbols of reliability and of security are one of the issues which prevent both groups from effectively engaging in a productive, strategically-driven dialogue.

8.2.3.3 *Strategic integration of designers – designers as epistemological change agents in organisations*

One of the most significant roles of designers in organisations is their influence as *epistemological change agents* enabling the process of transformation of value to take place. This has partially been explained in the case of designers making joint strategic decisions in the product development process. In addition, an important adjusting factor is the pervasiveness of the professional designers who need to establish

critical mass that would enable them to leverage their cultural significance and strategic integration.

Johansson and Svengren (2002) made a substantial observation in relation to the effects of numbers of designers in an organisation and the strategic integration of design. The authors conducted qualitative research in a company which attempted to turn design into a strategic resource. Initially this job was assigned to only one designer. The person was the personification of the design profession to the rest of the company's employees. She struggled to be adequately understood and was trying to build up a 'critical mass' (a sufficient number of in-house designers) to have 'more influence' (*ibid.*:9-10). As she was able to bring more full-time designers on board, the appreciation of design increased and became richer. When a core team came into existence and a design laboratory was established the level of design involvement into the operational and strategic decision making process became more central. As this was happening, other groups such as engineers and managers started to benefit from the more transparent and effective communication. The learning became a collaborative venture drawing especially on designers' experimental nature. There was a marked improvement of the position of design in the company after creating the 'critical mass'. Now not only did the rest of the organisation find out for themselves how designers work and what design is about but the designers' own professional development was also stimulated. What could be said about this case is that a single designer with her professional design values has not been able to *culturally connect* to others in organisation. Managers and engineers were not able to comprehend and adequately respond to the challenges of a lone designer. Johansson and Svengren (2002) reported her saying, after she finally was in a group of designers 'now I have others to talk with' (*ibid.*: 14). This is indicative of the different language and values designers as a professional group use in their corporate life. The authors conclude that in order to stimulate establishing design as a strategic resource companies should consider the 'critical mass' of designers present amongst their staff. This observation, although as Johansson and Svengren admit only based on one single case, adds to the debate about the role and place of designers as a *professional group* in an organisation. At this stage it cannot be safely inferred that a considerable group presence of in-house designers is a *sine qua non* pre-condition to

successful integration of design on a strategic level; but given other findings discussed in this thesis, it constitutes strong grounds for a working hypothesis for further research.

IDEO – example of sharing the design culture

Another case of integration of designers into an organisation is associated with previously discussed design consultancy firm IDEO. Even though this example is as much about the systems and methods developed by a company as about the people, it illustrates the reactions by people not familiar with the professional design culture.

IDEO claim that as a result of customers requests, they have launched a service which they call IDEO 'U' (for University) whereby they 'teach' others their way of innovating (own interview, Senior Manager, IDEO, London). This began with IDEO engaging its corporate clients in their five-stage design process. Firms experienced: (a) observation and the input of cognitive psychologists, anthropologists; (b) brainstorming, the cultural engine of IDEO (Sutton and Hargadon, 1996), with heavily visual and tactile content; (c) rapid prototyping and speedy creation of simple mock-ups; (d) trial-and-error refining within strict time and specification constraints; (e) implementation (Nussbaum, 2004).

After being exposed to such a visually rich and tactile process, which in my belief is something most designers would quickly recognise as they do, clients of IDEO became convinced of the merits and benefits of such an approach to innovation (including strategic innovation).

One of their customers is an FMCG giant and one of the oldest companies in the world (De Geus, 1997), Procter and Gamble. The CEO, Alan Lafley is reported to have teamed up with IDEO to create 'a more innovative culture' (Nussbaum, 2004: 91). This statement is nothing unusual in the business world itself but when it is expressed by the head of one of the most innovative companies it signifies the appreciation of the corporate executive of the IDEO approach. In the process of

'learning' how to innovate the IDEO way, Lafley took his Global Leaders Council of 40 strategic business unit heads to San Francisco (where the company's headquarters are based) for a one day 'immersion' in IDEO's culture. The result was astonishment and praise for the 'approach'. In my mind it showed in what exposure to the culture of designers by managers can result. I can sympathise with those comments as a similar experience happened to me when I was 'immersed' in the design culture of a different organisation.

As part of the IDEO 'U' program, more permanent and long-term relationships are in place. During weekly workshops and monthly stays in IDEO, P&G managers are taught the techniques that go with observation, brainstorming, prototyping and fast implementation (*ibid.*:92). Additionally, IDEO built an innovation centre for P&G where employees are enculturated into the process and arguably design culture as well. Claudia Kotchka, vice president for design innovation and strategy at P&G, said that 'they [IDEO] opened our eyes to new ways of working' and 'they solved problems in ways we would never have thought' (*ibid.*:92). Her statements can also be read from the viewpoint that she is an accountant by training and she has been made responsible for making design part of P&G's 'DNA', i.e. organisational culture (Reingold, 2005b). Kotchka is reported to have said: 'Design used to be soiled (*xi*) at P&G, viewed by most as peripheral and unimportant. Now most designers work directly with researchers within each unit. This sparks new sorts of innovation and makes it easier for nondesigners to understand what design is.' (Reingold, 2005a: 60). This statement reiterates an earlier suggestion regarding the importance of physical presence of designers if design is to be understood and acknowledged.

The 'new ways of working' to which she is referring, in my view, comprise the professional design culture which has been partially and subjectively captured and described in Chapter 7. Instead of being unique to IDEO, it is more likely present in environments where considerable groups of designers work (analogous to the non-uniqueness argument present in Chapter 4). The General Manager of IDEO London has himself admitted in an interview that what they do is not unique in the design world (interview with General Manager, IDEO London). It is conceivable that 'the

culture of designers', which spans professional, design-intensive organisations, possesses qualities recognised and appreciated by management executives. It is quite likely that, unknowingly, the managers recognise designers' values and preferences which are more widely present.

Hence, it could be stated that the *problem* might not reside solely on the designers' side (as unable to *sell* the qualities of design to managers) but might also stem from managers who fail to appreciate *design* for what it is. Managers (taking myself and my colleagues as examples), are conditioned by their education to mistrust the colourful, serendipitous and open-minded yet this is how they themselves need to behave in order to respond to the unexpected problems they face in a turbulent business environment. The reason why design and designers are not seen as 'business-like' is of a cultural rather than a content-based nature.

8.3 Summary

This Chapter engaged in a discussion around a devised model representing three different channels in which *design* impacts on an organisation. Among other things, it attempted to demonstrate that there is an alternative way of looking at the influence of design on organisational milieu other than the epistemic, top-down and theoretically persuasive perspective. In addition to debating the design-oriented management research paradigm (Romme, 2003a; Van Aken, 2004) one can investigate the effects of a professional group which carries the design values into the organisation. We can observe how designers modify theoretical frameworks, outcomes and organisational cultures when they are responsible for their creation. At this stage, the results and evidence are mere indications of certain tendencies as they are products of the explorative process which led this thesis. It is possible that within constructivist or more positivist epistemology, researchers would be able to verify some of the dependencies and relationships outlined in this Chapter.

The main point of the Chapter has been the introduction of the design influence model which was also used as a narrative tool. With professional design culture as the common denominator, the discussion examined several key issues:

Firstly, the Chapter looked at how design is being debated in mainstream organisational research and in the ways the culture of designers appears to modify the message and format of the frameworks and theories inspired by design. It appears that there are significant differences between frameworks advocated by professional designers and other authors. The former group concentrates on practical concerns, and uses evocative and rich examples which are in line with the cultural themes identified in Chapter 7. In contrast, the latter group of non-professional designers focuses more on epistemic and philosophical implications of the design approach. This group seems to have less in common with what has been described as professional design culture.

Secondly, the narrative explored the way in which designers modify the production of outcomes – another channel through which design makes its mark – in the product development process. Here designers have been identified as being the closest group between the company and both its internal and external consumers. Their professional culture makes them particularly willing and capable of tapping into the desires, needs and multidimensional messages communicated by the users. The dangers of removing designers from directly inputting on operational and strategic levels have been briefly described. Two examples of companies (Nissan, Apple) which have embraced designers as contributors at all levels of the process have been demonstrated. Despite the fact that the goal of this thesis is not to argue the positive impact of such an arrangement, in the course of the explorative study tentative evidence surfaced which suggests there might be a causal, positive relationship present.

Thirdly, designers themselves impact on organisations by the means of socialisation. This notion has been explored on two levels: (a) the level of cultural interfaces between arguably the closest professional group to designers, namely marketers and (b) the strategic level of integrating designers as significant change agents who are

transforming broader organisational cultures. The discussion pointed to the necessity of re-examining of the culturally subordinate role of designers to marketing and deliberated freeing them from its contextual grip. Finally, it has been suggested that the examples of 'teaching' companies' design culture might indicate the realisation, on the part of the commercial world, of the benefits of the professional design culture as a catalyst for innovation and organisational transformation.

Chapter Nine – Summary, conclusions and speculative implications

9.1 Introduction

The rationale behind this study was derived from the notion that professions form cultures which span organisations and have the capacity to significantly influence corporate dynamics. The fact that design has been gaining momentum as a metaphor in both management practice and research, in conjunction with the limitations in current knowledge about the culture of design professionals, meant that this presented itself as a potentially viable research opportunity. As a result of identifying the gap in theory and my own personal experiences in an environment saturated with professional designers, I embarked on a research journey which concludes in this Chapter.

The thesis aimed at exploring professional design culture and its place in an organisation. In itself, it should be seen as a piece of a sense-making puzzle with the capacity to inform the reader to create their own mental models. There are no claims regarding the ‘truth’ of what is being said, but only claims about a logical and aesthetic consistency in the eyes of an inquisitive student of the subject.

What follows is a summary of the main findings, a word on some speculative implications stemming from the research, and suggestions for further scholarly explorations.

9.2 Revisiting premises and research intentions

This thesis was the consequence of an immersion in a design-intensive environment and the resulting personal cultural dissonance experienced. The intention of the study from the outset was to gain an understanding of the professional group that designers constitute and to start positioning them on an organisational map more robustly. The process has followed an inductive route, whereby the aim was to explore meanings and constructs, as opposed to verifying the existing ones. Grounded theory (Glaser and Strauss, 1967) was chosen to aid in making sense of the data and sifting through the subjectively important from the subjectively unimportant. Essentially, the use of grounded theory allowed for a creative-analytical process to occur at the heart of the research.

Taking into consideration the growing recognition of the methods, tools and techniques associated and advocated by the design approach, this thesis raised the issue of a less studied phenomena that is the cultural contribution of designers.

The following research intentions were put forward:

- To explore the nature of the professional design culture through the lenses of design-intensive organisation
- To investigate what can be said about its place and interactions in an organisational domain.

The grounds upon which the study was based can be summarised in the subsequent points:

- It was observed that design increasingly played an important role as a metaphor in an organisation practice and research
- There was a substantial body of evidence concerning ‘designerly intelligence’ and skills

- Professional cultures are distinct and influential forces that can shape organisations by interacting with other subcultures. Those cultures, by their nature, span organisational and national barriers
- It was assumed that by investigating members of design-intensive organisations an access would be obtained to the common occurrences in the fabric of their professional design culture
- The anticipation behind this research logic was that through the exploration of the culture of designers some issues surrounding the effects of designers on organisations could be uncovered.

9.3 Summary of main findings

9.3.1 Theoretical arguments

Within the scope of this thesis, the literature review on the subject of the professional design culture did not provide sufficiently rich backdrop for the development of the spine of the argument. Unlike other fields, there existed no clearly identifiable scholarly conversation and subsequently there is no core body of literature. This situation meant that the literature review needed to draw from a number of academic traditions to format a theoretical framework, allowing for a coherent research position to develop.

9.3.1.1 Exploring design

The preliminary discussion involved the introduction to the topic of design. Despite the fact that the term is notoriously difficult to define and describe, partly due to its pervasion of natural, spoken language, an attempt was made to conceptualise it for the purpose of the thesis. Among other things, design was shown to be a process of: ‘changing existing situations into preferred ones’ (p.25); ‘a flow of events’ and ‘planning and thought’ (p.24). It was also briefly demonstrated that design rhetoric is also being used for political means such as in the case of ‘intelligent design’ debate in the US (p.24). Furthermore, links between design and culture were established. A

significant trend in the design-based literature was identified (p.28-30). There appeared to be fairly clear differences between theories of proponents of design as ‘science discipline’ and design as ‘non-scientific’ or ‘a-scientific’. The former group advocated design as an explicitly organised, rational and wholly systematic approach, the latter tend to maintain design’s inherent ambiguities, dynamism and inconsistencies.

Following on from Schön’s arguments, the thesis defined conceptual boundaries by placing design in a professional context (p.31). As a result of framing design in this particular way, it became necessary to explain what was meant by the term ‘professional designers’. This was resolved using the subsequent theoretical underpinnings:

- In the field of design management the word ‘designer’ usually referred to a professional working in, among others, architecture, product design and graphics design. Those professions have roots in craft and guild-based disciplines
- The early and influential design management scholar, Peter Gorb, whilst defining designers decided to exclude ideas-based disciplines and aligned thinking about professional designers in line with the above group
- Donald Schön decided to study architecture as the ‘prototype of design’. He also advised against including under this umbrella professions that deal with politics, institutions and behaviours as objects of design.

Consequently, the study defined ‘designers’ as ‘professionals trained and working in a family of design professions consisting particularly (but not exclusively) of architecture, product design, and industrial design’ (p.33-34).

9.3.1.2 Exploring design profession

It was not the intention of the thesis to present an in-depth examination of the plethora of design disciplines. Instead, in order to gain insight into the development

of the design profession, the lens of a sociological device called the ‘professional project’ was introduced (pp. 34-37). This framework was based on a notion that occupations in an attempt to establish their place in society, follow a path of economic and socio-cultural adjustment. A concept of ‘ideal type’ was used to provide a conceptual guide for understanding the processes involved. The following observations were made as a result of deploying the above, heuristic tool:

- Design, as a recognised family of professions, is relatively young and dates back to the Industrial Revolution
- After the Revolution, design started to split into engineering-based design and art-related design professions
- As a result of pressures to establish itself as a profession in society, design, on the one hand, followed a model (ideal type) based on ‘fine art’ values and role models (i.e. originality, non-conformism, improvisation, risk-taking), and on the other hand model based on values practised in ‘natural sciences’ (i.e. optimisation, truth-through-falsification, risk-aversion)
- The way of looking at design presented in the thesis, instead of engaging in the traditional debate about the ‘actual’ nature of design and designing focused on the underlying messages and values of the actors in the social processes that shape the field
- The schism between two professional projects was fuelled by distinct visions of what the profession was supposed to be about and in addition compounded by different educational frameworks
- There is no clear definition of the design profession, despite the attempts aimed at regulating it both in the UK and the US
- Design research, when viewed from the standpoint of the professional project, appeared to have oscillated between emphasis placed on the ‘hard science’ values and ‘fine arts’ values. With no apparent winner, the situation is still unresolved.

The distinction between the two professional projects’ tendencies was used as a basis for a) taking the ‘art-oriented’ professions into consideration when analysing professional designers and b) opening up a conceptual umbrella in order to give

credibility for addressing a family of professions as involved in 'one' design profession.

9.3.1.3 Exploring skills of professional designers

Subsequent theoretical investigations, in Chapter 3 of the thesis, concentrated on reviewing the existing knowledge on the subject of the skills, intelligence and characteristics of designers. This literature provided the closest match to the core theme of the study – the professional design culture.

Three schools/perspectives were identified among a considerable number of contributions:

- architectural/educational school with the likes of Alexander and Schön;
- psychological school with scholars such as Lawson, Durling and Newland;
- design management school with Broja de Mozota, Cooper, Press and Walker.

It was concluded that the characteristics/skills of designers can be categorised in the following, conceptually coherent groups: a) practical skills (i.e. drawing, manipulating artefacts, gathering and using information); b) cognitive/mental skills (i.e. visual thinking, reflectivity, manipulating spacial relations); c) interpersonal skills (i.e. communicating verbally and non-verbally, relationship building, persuasion); d) organisational/business skills (i.e. project management, understanding and balancing stakeholder requirements); e) traits/preferences (i.e. risk-taking, future focus, extraversion); f) profess/method (i.e. ambiguous, exploratory, emergent, divergent) (p.74).

A number of critical points were raised in relation to the existing research into professional designers:

- When authors reported their findings, they rarely published or debated methodologies they used in their studies. With the exception of the

psychological school, they did not provide adequate transparency to allow for an informed reflection on their outcomes

- There existed considerable confusion with regards to the level of conceptual decomposition of the 'designerly characteristics'. It was not uncommon to observe a single contributor discussing skills of designers, nature of design activity or design intelligences without explicitly and unequivocally distinguishing between them
- No contingences or caveats were attached to their descriptions as to suggest those were necessary and present at all times
- Most of the studies focus on idealised designers and do not engage in a debate on the group-culture level.

9.3.2 Exploring themes of the professional design culture

Chapter 7 presented the results of the grounded theory process of identifying cultural categories. In an inductive, creative-analytical exercise that combined cross-referencing the themes with the statements made in the literature, a narrative using excerpts from the interviews was constructed. The practice of splitting up the findings and analysis usually followed in theses was found not to be conducive to the specificity of the grounded theory approach. This meant that 'theoretical sensitivity' and studying the subjects, fed back directly into the process of theory creation.

Summarising qualitative findings is a very demanding assignment which, by its nature, results in a significant distillation of gained understanding. Subsequently, the reader can find what follows somewhat inadequate. They are encouraged to directly refer to the narratives from Chapter 7.

9.3.2.1 Consolidating multidimensional meanings

This category, representing a part of the culture of designers, encompassed such aspects of it as:

- Reconciling contradicting commercial objectives/seeing holistically – whereby designers are inclined to look at a situation from a variety of perspectives and aim for a creative reconciliation between them. It is about putting technical, financial, operational and emotional pieces together so that they create a viable and evocative whole (p.137)
- Synthesis-analysis *Shwung* (swing) – here, designers are seen as analysers and synthesisers seamlessly ‘swinging’ between those modes of engagement. It signifies an attitude to approaching complex problems that is at ease with on-the-spot simultaneous deconstruction and construction of reality (p.139)
- Consolidating multiple languages and media – this concept emphasises the designers’ role in consolidating meanings using available media in an effort to achieve a balance between the internal cohesion of their outcomes and external requirements (p.140)

9.3.2.2 *Creating/bringing to life*

In this instance, a category meant to express designers’ affection for creating things and seeing them brought to life. It included the following categories:

- Creative manifesting – designers were observed expressing their creative ideas through creating mock-up models and building an argument and seeking feedback based on those models. There was a sense that designers viewed something tangible as very rewarding (p.142)
- Rapid prototyping – this meant to express designers’ tendency to bringing their solutions quickly to life. It was seen as a safeguard against investing time and resources into a potentially unworkable concept (p.144)

9.3.2.3 *Embracing discontinuity and openendedness*

As one of the most distinct categories, the above reflected an attitude and behaviour on the part of designers that was comfortable with ambiguity concerning the exact path of the project, nature of the parameters of the brief or control over the

variables. In other words designers appeared content with operating in a situation of considerable volatility and ambiguity. The constituent concepts here included:

- Allowing oneself not to be 'in control' – this category refers to designers' willingness to engage in a process where the details are not determined upfront and where outcomes are unknown or uncertain. It is inherently linked to taking risks but not simply for its own sake (p.145)
- Linear process and detailed planning vs. 'let's see how it goes' – this suggests an attitude which encourages being adventurous and not resisting the following of an unexpected opportunity if it arises. It is also about the willingness to improvise, use mistakes as constructive starting points and the unwillingness to prematurely 'freeze' options or closely adhere to the initial brief (p.146)
- Freedom to think and behave differently – here, an unusual and unorthodox behaviour is seen as acceptable and sometimes even the required norm. Although generally seen as positive, it might also have negative and disruptive consequences. In addition, it was suggested that as a 'by-product' designers are very capable of embracing change (p.147)

9.3.2.4 Engaging polysensorial aesthetics

The above cultural theme reflected the sensory richness of the designers' 'world' and simultaneously underlined their fondness for it. The supporting categories mention:

- Visual discourse, visual thinking and creative dialogue – those concepts draw attention to the most recognised feature of the designers' job, namely its visual component. In their culture, visualising is used both as a form of conceptualising and thinking, and as an aid in a process of communication (p.149)
- Aesthetics, beauty, taste – those concepts focus on the aesthetic dimension in designers' professional culture. It was noted that designers pay considerable attention to how an outcome of their work looks and feels in addition to

other factors. It was not clear how significant it was for designers to maintain the balance between form and function (p.151)

- Intuition, instinct, tacit knowledge – this related to engaging the ‘immediate and unconscious perception’ in all activities and decision making. It was about the willingness to use ones’ aesthetic feeling. (p.152)

9.3.2.5 Engaging personal and commercial empathy

The research identified a category which suggests, somewhat contrary to popular belief, that designers are team players who willingly empathise with the external and internal customer’s views. Several categories were outlined:

- Concentrating on people and human-centredness – it was stated that designers tune into socio-cultural trends and peoples’ lifestyles. They have the capacity and will to connect on human/user level with a problematic situation. This enables them to tap into the deep-seated desires and needs of customers (p.155)
- Transparency of communication – it was pointed out as a distinguishing factor between designers and artists. The need to provide comprehensible solutions appeared to make designers adopt a transparent stance. There was, however, a caveat entered that suggested this might not always be the case (p.156)
- Sense of commercial purpose/commercial empathy – the category was identified as a reflection of the views expressed by the interviewees which suggested designers sympathise with the commercial constraints. It was stated, though, that there was evidence pointing to contrary conclusions (p.157)
- Authenticity and playfulness – the thesis in this instance suggested designers as a group have a playful nature that can stimulate environments in which it is embedded. Authenticity of their creative presence was also alluded to (p.161)

9.3.2.6 Creating fundamental value through unconfined exploration

An attempt was made to integrate the five theoretical categories that emerged from the grounded theory process under an overarching core category. In itself, it can be seen as a master statement describing the synthesis of the outcomes of the sense-making exercise aimed at understanding the central character of the professional design culture. Because it is farther removed from the qualitative data than the theoretical categories, it should be seen as more of a conceptual composite.

Attention was drawn here to: a) designers' focus on the future solutions where they perceive reality and culture as something pliable – their attitude towards workable solutions is 'assertion based rather than evidence based'; b) they connect to work with emotional, rational and aesthetic levels, acting on the assumption that they need to be coherently consolidated; c) designers rely only to a limited extent on predetermined, cumulatively created frameworks and prefer proposing novel, original forms and challenge status quo; d) can stimulate or support change in organisations due to their positive attitude towards it; e) this attitude appear to be beneficial in the case of the paradigms proposed by the resource-based view of strategy which seeks to reframe future competitive boundaries (pp.162-164).

9.3.3 Model of design's influence

After outlining the culture of designers in Chapter 7, Chapter 8 engaged in a broader debate about the role of design and designers in an organisation. In a bid to provide more clarity to the arguments concerning the rhetoric of *design*, a conceptual device was introduced. It took shape of a model of design's influence on organisations that incorporated three, distinct 'channels': a) frameworks; b) outcomes and c) designers. These are briefly summarised bellow:

- *Frameworks* – design-informed or design-inspired rhetoric finds its way into various theoretical discussions involving: ontologies and epistemologies (Dewey, Peirece, Schön), policies and strategies (Broja de Mozota, Buchanan,

Cooper, Manzini, Press, Papanek), methodologies and methods (Romme, Van Aken); processes, techniques and tools (Cross, Lawson, Myerson, Kelly). Their common feature is that they are being proposed and argued using logic and persuasion. Often before they are being proposed, implemented or seriously considered, they undergo peer review which subjects them to public scrutiny. This is a top-down process and depends as much on the mood of the society or organisations which bear the consequences of the implementation of these frameworks, as it does on the rhetorical skill of the persons who advocate their view. It was observed that the professional design culture appeared to have the capacity to modify the message and forms of the proposed frameworks so that they are more eclectic, evocative and concentrated on achieving practical results. Two current examples from the literature were analysed and related to the earlier findings – one from the debate in the mainstream management about the role of design mode of research; the other on the design-led consultancy's methods. It was argued that using the prism of the design culture more depth can be achieved in the understanding of the context and internal architecture of those frameworks (pp.171-185)

- *Outcomes* – in addition to the above, the 'channel' of outcomes was proposed as a category of design influences. Here, design makes its mark by the aesthetic (non-cognitive), symbolic (cognitive) and physical (ergonomic, economic, and ecologic) powers of the outcomes professional designers create. Unlike in frameworks' case, the impact is usually instantaneous (except for perhaps the environmental impact dimension). The professional design culture modifies the development of those outcomes and depending on the level of its organisational integration has more or less profound impact. Some tentative evidence from Nissan and Apple suggested that the more integrated the culture of designers the better the subsequent outcomes. It was argued that there is a possibility of a more substantial, culturally-based innovation if design culture was more tightly knit into the fabric of an organisation (pp.186-194)
- *Designers* – the third element in the model of design's influence proposes that designers, as a group, can have a significant bearing on the internal dynamics

of the organisation. Their role was explored in relation to marketers and corporate strategising.

- With regards to the former, the problematic situation of the cultural jurisdiction of marketing over design was explored. It was argued that design, as seen through the eyes of marketers, was merely a flawed device aimed at making products more visible in the marketplace. Consequently, if designers were to have more pronounced impact they would need to consider breaking free from marketing 'gate keepers' who seem to be governed by a different set of values not necessarily compatible with the professional design culture (p.195)
- As far as the latter was concerned, the thesis suggested that designers can play strategically important role if: a) they recognised as worthy contributors to the top level processes by managers; b) there is a sufficient number of in house designers – a 'critical mass' – interacting and impacting other groups in an organisation. In the final part of the discussion an example of IDEO sharing glimpses of its culture was given as an indicator that the professional design culture might be gaining the proverbial 'ear' and perhaps even respect of the wider commercial world (pp.199-203)

9.4 Speculative implications and recommendations

Instead of offering firm recommendations, which, considering the exploratory nature of the research would be inappropriate, some possible suggestions are presented to the likely recipients of this study. The groups addressed are: a) design management scholars, b) mainstream management scholars, c) design educators, d) management educators, e) professional managers and f) professional designers. The suggestions are based directly on the findings relating to the culture of designers and also on the reflections regarding the elements of the research process.

Design management scholars could consider:

- mapping out the field in an attempt to structure the debate and identify gaps in the existing knowledge base
- being more transparent with their research methods when studying professional designers
- linking with the mainstream management debate which is attempting to investigate design from a variety of angles in order to broaden/enrich the understanding of design
- being more critical with regards to the topics discussed and the assessment of the results – in other words try to ‘de-evangelise’ the rhetoric of the scholarly debate
- shifting the emphasis from the professional audience by making an effort to address/create academic base of design management
- making a statement by investigating similarities and dissimilarities between marketing and design approaches to adding value in organisations
- engaging more intensively with ‘what is meant by *design* in organisation research?’ in order to balance popular questions such as ‘how do we manage design process?’

Mainstream management scholars might pay more attention to:

- the nuances and ambiguities debated already by the scholarly conversation on design methods, whilst considering the adoption of the ‘design mode’ into management research
- the knowledge regarding ‘design in organisations’ which has been provided by the field of design management
- being mindful of the rhetoric and the many cultural/linguistic connotations surrounding design, designing and professional designers
- being aware that designers are likely to use different criteria and mental models from those used by managers

- looking beyond the tools and methods associated with the design approach and considering the impact designers as a professional group can have in organisations.

Design educators may consider:

- broadening the curriculum base to include more business driven subjects in order to make future designers more aware of what is required of them in the professional setting
- encouraging physical interaction between design and management students as a part of the main course or placements in an attempt to bridge the cultural divide and socialise both groups early on into each others' values and behaviours (Such initiatives are already supported and encouraged, for example programmes such as Inside Track are being promoted by the Design Council)
- adjusting their understanding of the skills designers acquire to the classifications shown in Chapter 2; this would hopefully give more clarity and transparency as to the overall picture and could inform curriculum choices; in conjunction with the results present in Appendix C and the discussion in Press and Cooper (2003: 199), it could provide a substantial basis of the exercise of mapping out comprehensive design education requirements
- the point raised with respect to design's professional project which suggested an on-going process of cultural separation in amongst design disciplines and examine, in what way the values passed through the education contribute to the schism. A possible realignment could follow if the community would have decided that
- developing connections with management educators in order to benefit from cross-breeding of pedagogical methods and techniques.

Management educators could investigate:

- the opportunity to enrich their students' attitude to originality and innovation by incorporating approaches widely used in design education – from more

emphasis placed on the tactile and sensory experience, through to working with highly ambiguous and multifaceted problems, to cultural and fashion-based aspects of rapid ethnography used by designers

- balancing the traditional heavy emphasis placed on critically examining and analysing issues (focus on describing reality) with creatively proposing speculative solutions (focus on creating reality) – shifting students' attitude from predominantly 'reactive' to more 'proactive'
- incorporating more reflexivity into the curriculum model thus potentially enhancing students double-loop learning capacity and appreciation of the culture of designers. (These and similar suggestions are proposed in Cox Review of Creativity in Business – an HM Treasury-sponsored report (see Cox, 2005: 33)

Professional managers, including organisational strategists and marketers, based on the outcomes of this study, could consider:

- integrating professional designers on all levels of an organisation (achieving saturation and critical mass) if they want to support the creation of key capabilities and core competencies based around design
- providing designers direct contact to company's customers, thus allowing for a full channel access to cultural context, in order to create the conditions for more grounded and 'richer' innovation
- utilising the professional design culture to boost the effectiveness of organisational change initiatives – with designers' positive attitude to change and originality they could act as change agents
- taking into perspective the potentially disruptive or untimely conduct of some professional designers – the tendency on the part of designers to keep options open and iterate solutions without due care for business constraints
- utilising designers where a 'step change' is needed, possibly in a turnaround situation – due to their open-ended, projective and assertion-based approach to solving complex problems
- seeing beyond the way designers conduct themselves, including dress sense and highly visual aspects of their workplace and acknowledge that it does not

necessarily mean lack of focus, commitment or contribution to the bottom line – more than anything it means that they come from a different professional culture.

Professional designers might consider:

- reflecting on the descriptions of their professional culture provided in this thesis when assessing their place and role in organisations – this might lead to a) reassessing the relationship they have with marketers and b) reasserting their voice when it comes to more strategic contribution
- reflecting on the fact that strategic management's scholarship interpretation of design is informed, among others, by Mintzberg's (1993) 'design school' of strategy. His definition places accent on design as planning which is: controlled, conscious process of thought; devised by the CEO and fully formed before implementation (*ibid*: 38-39). Those characteristics are seen to be very different to the nature of the professional design culture's contribution, hence cloud the understanding on the managers' side
- taking note that their professional culture, in aspects such as *openendedness* or *embracing discontinuity* is conducive to the arguments and suggestions of the resource-based view of strategy which places importance on creating original and unanticipated by the competition business configurations.

9.5 Concluding remarks

In every organisation, different professional groups struggle for power and influence over the strategic process and the creation of key capabilities. What they bring with them, except for the interests of their organisation are the values, beliefs and behaviours they have acquired during the process of socialisation (enculturation) into their professional groups. They carry with them entrenched, often deeply hidden epistemological underpinnings which shape the way they work.

Apart from seeing design as a set of tools, skills or epistemologies for more grounded organisational enquiry, this thesis suggested that perhaps no less relevant design-inspired investigation should be looking at the subcultural impact designers make on an organisational level. By examining their social 'footprint' by talking to individuals from design-intensive organisations, this study aimed at identifying the nature of the professional design culture and the role it plays in organisations. The descriptions themselves form part of qualitative conclusions and cannot be easily cut down to fit into this section. Other, more focused remarks can be found in section '*Speculative implications and recommendations*' which address different audiences with targeted messages based on the findings from the study.

The recent debate in management academia suggests that educating future managers has been primarily based on the frameworks and epistemology 'borrowed' from natural sciences and humanities (Romme, 2003a; Van Aken, 2004). These come with the heavy emphasis on describing the seemingly 'objective' reality as opposed to 'turning it into something more desirable'. Consequently, one could hypothesize that large numbers of managers who are socialised in this way of thinking go on to shape the organisations they work for, in a way that is closest to their descriptive-analytical mindset. If they find their way to a strategically influential position (judging by the numbers of business graduates working for management consultancies, they quickly do), they unknowingly inject their epistemological standpoint into the strategic process. The question arises: Are they epistemologically equipped to create truly generative strategies? Within the paradigm of creating new market spaces, in order to generate sustained competitive advantage (Hamel and Prahalad, 1994; Kim and Mauborgne, 2005), how well are they prepared to engage in this kind of strategic process? Whilst this research has left those questions unanswered, building on the notion of the role designers could play in strategic renewal (Ravasi and Lojacono, 2005) it has explored the culture of designers in design-intensive organisations. The study suggested that designers might be a group within a company that could help to create the conditions for future-oriented and pragmatic strategising.

In addition, if companies are serious about turning design into a strategic resource, it was suggested that 'the critical mass' surrounding design needs to be created. This

relates to supporting the internal design function in terms of the presence of professional designers both on the operational and strategic level. 'The critical mass' was understood in terms of saturating the organisational culture with the values and attitudes supported within the culture of designers. The creation of this 'tipping point' may depend on the proliferation and degree of socialisation of the values, beliefs and behaviours carried by designers into organisations. This is but a reflection stemming from an exploratory research processes. However, if it finds support, questions relating to whether to outsource the design function in the name of operational efficiency, and what is the role of designers within an organisation, might take on an additional, more profound dimension.

Briefly, the study:

- highlighted a set cultural themes gathered in highly respected design-intensive organisations
- provided a list describing designers for other professions to reflect upon
- added descriptions to the debate on 'design attitude' (Boland Jr. and Collopy, 2004a)
- provided a supplement to the theoretical approach of the design mode in organisation sciences (Romme, Van Aken)
- gave non-designers an idea what they might expect from this group
- provided an overview and a cultural guide in a situation where miscommunication or culture clash takes place
- added detail to the arguments about 'design as a transformer' (Broja de Mozota, 2003) by offering a view where designers can be seen as cultural change agents.

9.6 Reflections on the conduct of the study

It is highly problematic or perhaps even pointless to offer a comprehensive description of the culture of the design profession, not only because it is constantly developing, evolving and changing but also because of the inherent ambiguities of

what culture is. Catching a glimpse of the dynamic reality on the ground, where designers constantly re-negotiate their place in an organisation was a considerable challenge in itself.

Despite the difficulty of extracting cultural impact of any one group of people on an organisational landscape, I made an attempt to uncover and heuristically isolate concepts relating to designers' values, beliefs and behaviours. In this task I used the framework of professional cultures and followed the spirit and logic of grounded theory approach (Glaser and Strauss, 1967).

9.6.1 Evaluation of the methodology employed

Throughout this research my aim has been to adhere to the external rules with regard to the design of the methodology. As those guidelines cannot be very specific due to the interpretivist overarching philosophy, or in the case of grounded theory in Glaser's variant, not too detailed purposefully, there has been a considerable scope for creativity in approaching this research. In the course of my study I applied a very demanding internal benchmark of quality. Although difficult to explain its precise nature, it has been crucial in all methodological and operational decisions I have made. What I tried to steer clear of was the tendency to write about the process and the findings as though I always knew exactly how they would form. In other words my intention was to write 'diligently' and 'scientifically' but not 'hypocritically'. In the course of any research, one has to balance the theoretical strength and accuracy of practical data gathering. Sutton and Straw (1995) for example suggest that any given researcher is either strong theoretically or empirically. They state:

'Contradictory demands for both theory and practise measurement are often satisfied only by hypocritical writing. Theory is crafted around the data. [...] Peripheral and intervening processes are left out of the theory so as not to expose a gap in the empirical design. We are guilty of these crimes of omission' (*ibid*: 378). The authors admit that in their work whilst supervising postgraduate students they suggested leaving out portions of their theory that were not measured well. They

also ‘counselled’ their students to ‘delete otherwise interesting data that did not directly relate to their theoretical argument’ (*op. cit.*). This ‘hypocritical writing’ is something I have tried to avoid in this thesis. As previously mentioned my intention has not been to ‘sanitise’ the process in the sense of building theory around the data but rather to expose idiosyncrasies and reflective nuances I have been challenged to address.

9.6.2 *My role as a researcher*

I believe it is evident that in the process of epistemological and methodological evolution I have taken a personal, experiential approach to defining ‘appropriate’ methods to tackle the research questions. Although this was an inevitable consequence of abandoning a detached stance, my intention throughout the research was not to compromise on either the quality of the argument or the strength of the scholarship presented. I admit to trying to be both original and thorough. Whilst this seems an obvious statement it is not often the case (Sutton and Straw, 1995).

It is important to note that there is an embedded contradiction in the nature of the research that tries to be both interesting, novel and ‘scientifically’ sound. Sutton and Straw (1995) argue, using the example of Administrative Science Quarterly (ASQ), that on the one hand authors are asked to engage in creative, imaginative acts. On the other hand, ASQ wants the same authors to be ‘precise, systematic, and to follow accepted procedures for quantitative or qualitative analysis’ (*ibid.*: 376). As the authors themselves admit, these are contradictory requirements that might be captured in phrases such as ‘disciplined imagination’ (Weick, 1989), ‘wild thoroughness’, or ‘accepted deviance’. Although these might appear as oxymorons, I felt that it was my academic duty to try to resolve those hidden contradictions in the process of reflecting upon the data and my personal impact had onto the research itself.

The preliminary part of my epistemological journey was informed by a positivistic approach to the subject of my study as well as the procedures involved. The

literature review was initially done to *solve* the problem rather than inform the process of *problem solving*. After examining a number of manuscripts and journal articles I found myself in a position of internal dissonance. On the one hand I had the crisp and usually linguistically precise world of what was written and on the other hand, whilst being immersed in the culture of designers, I was experiencing a much richer and more profound understanding. It is my belief that this situation was compounded by my previous management education and management experience. Unwittingly I was reflecting on the values and ways of doing things I carried into the process as a manager. I was doing it in the light of the values and behaviours I observed in designers. The concern thus was not of purely theoretical nature, but rather concentrated on my experience and richness of the environment populated by designers. Over the course of my research which took three years my understanding of designers and their processes grew as did my understanding of my own position in this community. I could not help but be exposed to this ‘alien world’ first hand. As I mentioned previously, the process of my study in its nature closely resembled ethnography. However, it was not carried out using the conscious frameworks of this methodological approach. This notwithstanding, I have found the impact of my immersion in the community to have been profound. I believe that some of the findings and observations did not suddenly appear solely as a result of the case studies but co-emerged from the learning process I underwent. Thus, it is impossible to separate the outcomes of the main part based on grounded theory analysis from the earlier qualitative preliminary study and concurrent ethnographic involvement. It is also impossible to separate myself from neither the process nor the findings in an attempt to appear more ‘objective’.

In the course of my research journey I have experienced some of the taken-for-granted assumptions, behaviours and values both espoused by designers and found in their actions. As a result I have emerged changed. It would be unwise and unscrupulous in my opinion to omit my voice as a reflection on the process and the emergent theories. In this sense the reader learns not only about the subject of the study but also about myself. With no intention of hiding behind the notion of the ‘invisible’ researcher I have chosen to expose myself as an originator, analyser and active agent in the research experience. I become a human being conducting a piece

of study, with my own personal histories and characteristics (Denzin and Lincoln, 1998: 70). Acknowledging this I re-emphasise the subjectivity of the research process as the basis for my own evaluation of the outcomes of this study.

Only now can I reflect that I did not know initially what the precise ‘problem’ of the thesis was. In a situation of uncertainty and ambiguity I originally chose to follow a positivist/objectivist route instigated by my management background. The early stance appears to me now as an optimisation exercise which was aimed at meticulously operationalising constructs and validating scientific method to arrive at a point where it would have optimally disconfirmed the initially conceived hypothesis. However, after a period of working with this paradigm in mind and reflecting on the ways in which designers dealt with uncertainty and ambiguity inherent in the design process, I came to realise that the initial method was actually quite superficial. It also seemed ‘unscientific’ in a sense that I would not, towards the end of the project, find out something I had already suspected. It was also utterly uninspiring, given the richness of the environment I found myself working in. Therefore, what I can now describe as *professional design culture* influenced me to keep my mind open, as to what the ‘research problem/question’ was, for as long as possible within the time constraints of the project. This decision not to ‘freeze up the brief’ at an early stage of the process was not easy as it clashed with my traditional, rigid and structured standards for doing ‘proper management research’. The process required having faith in my ability for timely closure to arrive at an end point seen now as an imperfect and imprecise reflection on the subject and my personal learning process.

In addition, the research was not only led by the logic and consistency of the arguments but also by aesthetics. In this sense I followed what some authors in organisational studies advocate as a more honest, authentic and accurate approach to studying organisational phenomena (Gagliardi, 1990; Strati, 2000; Guillet de Monthoux, 2004; Ramirez, 2005). I was constantly asking myself questions such as: ‘does this classification feel right?’, ‘am I attracted or repelled by this concept?’ or ‘does this idea seem beautiful or ugly?’ I decided to engage in that mode, and also to admit to using it, despite the ‘de-legitimation’ of *emphatic knowledge* in management

and adopt as a point of departure and the suggestion that ‘knowledge is first and foremost emotional and aesthetic’ (Ramirez, 2005: 36).

9.7 Future research

Apart from investigating in-depth the propositions outlined in the speculative implications of this thesis, some other possible alternative paths of further investigations might for example include:

- The differences of perceptions between designers who have gone through design education and those who have not. The aim here could be to verify whether there are significant variations in the ways in which those two groups influence organisations
- Investigation of how wide-spread the identified culture themes are beyond the design-intensive organisations. The hypothesis here might suggest linking those with product innovativeness, clients’ perceptions of the brand or customers’ price elasticity. This approach would need to be considered via a more objectivist methodological stance
- A separate study could look into the issue of how a strategic decision-making process where designers play an active role differs from one in which they have no involvement. Possible focal point in this instance might be the criteria used and the nature of the process
- Each individual cultural theme could be unpacked in great detail: for example, the strength of the preference for using a number of senses as opposed to one dominant one, such as sight, might be investigated. In other words, how much designers care about other senses and how this might modify their cultural interactions
- The research might look at physical environments created by professional designers and their properties. For example, a study could focus on the effect of those arrangements on other professional groups in organisations.
- Within the professional design culture, micro-cultures could be investigated and compared.

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Appendix A – Initial Stage Pilot Survey

Dear Participant,

The purpose of this exercise is to investigate perceptions of values amongst different groups within the University. It is a part of a Ph.D. based in the School of Design.

This short survey is confidential and will only be used as a means to establish a starting point for more in-depth analysis.

In your professional domain (design, management, finance, art, etc.) how would you judge your emotional investment in the following attributes? Each idea is given a short, bullet point explanation.

Please tick boxes reflecting your emotional investment in the ideas mentioned below. Please relate all these ideas to your professional life only. With each item you have five options to choose from: *Strong positive emotional investment, Positive emotional investment, Neither positive nor negative emotional investment, Negative emotional investment, Strong negative emotional investment*.

Attributes	Emotional investment					
	<i>Strong positive</i>	<i>Positive</i>	<i>Neither positive nor negative</i>	<i>Negative</i>	<i>Strong negative</i>	
<i>Constructive conflict</i> - Constructive interaction - Respect and trust as boundary conditions						1
<i>Risk taking</i> - Risk as a by-product rather than the motivation - Willingness to go beyond individual or group <i>comfort zones</i>						2
<i>Visual thinking</i> - As a mode of thinking						3
<i>Pluralism in decision making</i> - Different members of the group in different circumstances are given the power to decide						4
<i>Intuitiveness</i> - Intuition as a sufficient criterion to make the final decision in a new or complex situation						5

<i>Rebelliousness</i> - Deliberate contradicting point of view							6
<i>Aesthetics</i> - Willingness to acknowledge aesthetical way of perceiving the world around us (beauty, sensorial experiences, etc.)							7
<i>Artistic creativity</i> - Willingness to create/design something artistically appealing, while engaging in day-to-day work - Beyond function							9
<i>Emotions</i> - Willingness to embed future emotional reactions in products/services							10
<i>Multisensoriality</i> - Willingness to engage more than one sense to judge, design products/services and make decisions							11
<i>Cultural multiplicity</i> - Willingness to interact and benefit from different cultures (countries, regions, organisations, professions)							12
<i>Sustainability of solutions</i> - Willingness to take long term responsibility for current decisions							13
<i>Tacit knowledge</i> - The importance placed on the knowledge that can't be written down							14

You are... **(if necessary, tick more than one indicating the leading role)**

Student	Researcher	Teacher	Manager	Professional Consultant	Other, who?		
						21

Your professional domain has mainly been... **(if more than one indicate the leading field you occupy)**

Design	Management/ Organisational studies	Art	Other, please indicate?		
					22

Appendix B – Initial Stage - Approach and Results

Conference Paper:

Michlewski, K. and More, J. (2003) '*Distinctive Values of Design in Organisational Culture*', European Academy of Design Conference, Barcelona, 28-30 April, 2003.

ABSTRACT

This paper explores attributes of design derived from previous research. It investigates an identified set of attributes by subjecting them to an empirical analysis. Case studies conducted among academics and consultants, in the fields of management and design are aimed at establishing what is the perceived emotional investment in these attributes. By combining the evidence gathered from statistical analysis of questionnaires and content analysis of discussions within focus groups, we have identified a potentially distinct group of values shared by designers. These include values concerning: visual thinking, intuitiveness, aesthetics, artistic creativity, emotions, multisensoriality, sustainability of solutions and tacit knowledge. Although the results are not conclusive they provide an insight into which design-derived values might contribute to organisational cultures.

INTRODUCTION

Design is one of the oldest activities known to the human race. However, the design process is often perceived to be ambiguous. Designers themselves still tend to describe their work in enigmatic terms (Allison, 1993). The process is non-linear and involves multisensorial decision-making (Schön, 1983). The organisational implications of design have not yet been fully recognised, due to the predominantly positivist approach to educating managers and management scholars (Oakley, 1990). Subsequently, the difficulties of bridging design and management have prevented both groups from exploring new, mutually beneficial fields of inquiry.

This paper is part of a Ph.D. which investigates a new perspective on managing organizations in the light of a derived, shared understanding of design process values. The research, involves explorative study around the potential contribution of design values to organisational culture, leadership and communication. It is anticipated that the study will lead to an improved understanding of the role of design in organisational culture. There is an increasing awareness of the role that design can play to improve the competitiveness of organisations both, in terms of intended outcomes, as well the intrinsic nature of the process (Peters, 1997; Myerson, 2001). However, it seems that this issue tends to be neglected in terms of organisational culture.

The purpose of this paper, apart from presenting early results, is to seek feedback from the conference participants on the research carried out so far, both in terms of the method and the content. In structure, the paper is composed of a list of attributes from the Ph.D. literature review and goes on to establish the perceptions of emotional investment into these attributes made by design and management scholars. Finally is evaluated by comparing responses from both groups through the means of qualitative and quantitative research methods.

ATTRIBUTES OF DESIGN – LITERATURE REVIEW

The distinctive skills of professional designers have been highlighted by a study commissioned by the Design Council (Bruce and Harun, 2001). The report stressed designers' strategic and tacit skills, such as creative thinking, decision making, risk taking and user focus. 'A good designer has the ability to integrate, interpret and conceptualise solutions. Designers are under constant pressure to develop new skills and re-train in new technology, and they can harness technology and 'couple' this with user needs to create novel products and/or services.' (Bruce and Bessant, 2002: 48) To our knowledge, there has not been a research specifically focusing on a set of values fostered by design philosophy and process from the viewpoint of their influence on organisational cultures.

CONSTRUCTIVE CONFLICT AND CONSTRUCTIVE DISCONTENT

Dyer and Song (1998) define *task conflict* as 'non-personal disagreement over work goals, objectives, and methods' (Dyer and Song, 1998: 508). Their study shows that constructive conflict may have a positive association with performance in New Product Development, which is central to design process. Authors quote Richard Pascale who said that 'Creativity and adaptation are born of tension, passion, and conflict' (Dyer and Song, 1998: 506).

Eisenhardt (1999) suggests that conflict is inevitable in dynamic markets. It stimulates innovative thinking, creates a fuller understanding of options, and improves decision effectiveness (Eisenhardt, 1999). Conflicting views are seen as necessary to challenge the status quo. (Peterson, 2002).

So-called 'constructive discontent' seems to be an important individual driving force in design. As Harris (1998) puts it: 'This is not a whining, griping kind of discontent, but the ability to see a need for improvement and to propose a method of making that improvement. Constructive discontent is a positive, enthusiastic discontent, reflecting the thought, "Hey, I know a way to make that better"' (Harris, 1998).

RISK-TAKING

Designing something new carries an inherent uncertainty that something might go wrong (Bruce and Bessant, 2002: 40). That is why design by definition must mean taking risks (Potter, 1989: 19). The often ambiguous and incomplete information and unexpected solutions whilst responding to client's brief, directly relate to risks facing designers, which are a natural part of the process (Cross, 1995: 107).

According to Joulia (2000) in terms of design practice, 'risk becomes aestheticized, reflexive and often deliberate (Joulia, 2000: 84). Jeremy Myerson has noted how designers can seldom resist claiming a job to be a 'breakthrough and a radical departure' (Whiteley, 1993: 43).

In the commercial world of design, risk-taking is vividly encouraged. IDEO, an American-based design company have a set of underlying principles known as FLOSS. The F stands for Failure, meaning – don't be afraid to take risks (Myerson, 2001: 31). British designer and entrepreneur James Dyson explains it in these words:

'To create a product with a difference it is vital to create a working culture where people are not afraid to take risks inherent in trying something really new.' (Potter, 1989: 28)

VISUAL THINKING

One of the most vivid design abilities is the need to use sketches, drawings, and models as a way of exploring a problem and solution together (Lorenz, 1986: 9; Cross, 1995: 111; Bruce and Bessant, 2002: 33).

The ability and willingness to 'think visually' is particularly important in the design process because '...it enables mental pictures to be constructed of what has never been experienced. Drawing, model making and visual sensitivity enable alternative forms, details and ideas to be explored, discussed and considered, before time and capital are invested in making the design (Bruce and Bessant, 2002: 48).

PLURALISM (IN DECISION MAKING)

'The design discipline is inherently a pluralistic one' (Buchanan and Margolin, 1995: 245). Multiple member perspectives have been shown to stimulate consideration of non-obvious alternatives in task groups and contribute to creative solutions (Mohammed and Ringseis, 2001: 313).

One of the most prominent design scholars, Gropius from Bauhaus, 'revitalized design thinking by initiating a new path of experimentation and pluralistic exploration grounded in art and human character' (Buchanan, 1995: 36).

The unanimity rule could be seen as the extension of the atmosphere of pluralism, and: 'because unanimity often forces group members to discuss the reasons underlying preferences in order to assimilate divergent perspectives, shared assumptions can be achieved to a greater extent than with majority rule' (Mohammed and Ringseis, 2001: 328). This appears to be an important tool in ill-structured problems, which are present in many design activities (Schraw, Dunkle et al., 1995).

INTUITIVENESS

The process of design embodies intangible elements such as creativity, intuition and imagination (Zeisel, 1981: 3). Nigel Cross, in describing distinctive features of design ability, emphasized the importance of these elements (Cross, 1995: 106). Design activity is partly rational and cognitive, and partly irrational, emotive, intuitive and non-cognitive (Schön, 1983; Dormer, 1993; Buchanan, 1995).

Intuition allows us to synthesize isolated fragments of data and experiences into an integrated picture. It is a holistic perception of reality that transcends rational ways of knowing (Vaughan, 1990; Khatri and Ng, 2000: 60).

Agor (1990) has identified several conditions under which the use of intuition is appropriate: (i) there is a high level of uncertainty in the environment; (ii) there is little previous precedent for action in the face of new emerging trends; (iii) there are limited or no 'facts'; and (iv) there are several plausible alternative solutions to choose from with good factual support for each option (Agor, 1990). These conditions appear to fit closely within the nature of design domain.

REBELLIOUSNESS

According to Lorenz (1986) designers should have 'a natural unwillingness to accept obvious solutions' (Lorenz, 1986). There is existing evidence that authentic dissent may stimulate consideration of different information, create more original, divergent

alternatives to a problem resulting in a better decision-making (Nemeth, 1986; Nemeth and Staw, 1989; Volpato, Maass *et al.*, 1990; DeDreu and DeVries, 1996).

In their study on relationship between rebelliousness, openness to experience and creativity Griffin and McDermott (1998) found that reactive rebelliousness is related to an interest in design activities such as: interior decorating, exterior decorating, inventing new recipes, making clothes, growing or gardening (Griffin and McDermott, 1998).

In terms of authentic dissent versus 'devil's advocate' technique, initial evidence suggest that the former is superior to 'devil's advocate' in reducing premature adoption of preferred solutions and breaking the uniformity of views. It seems that authentic dissent produces more quantity and a better quality of solutions (Nemeth, Brown et al., 2001).

AESTHETICS

Aesthetics in design is not simply a visual exercise aimed at product differentiation. This perception often causes design to be reduced to styling (Morello, 1995: 72). It is argued that aesthetics is to be seen as the harmonious integration of all user requirements in order to balance the rational, sensory and emotional expectations of individuals and societies (Zaccai, 1995: 6). Complicated arbitrary factors of taste and preference, which need to be addressed in the process of design, are only partially susceptible to scientific or engineering analysis. Therefore they must be responded to through aesthetics (Buchanan, 1995: 52).

On a more philosophical level, Peirce distinguishes 'aesthetic feeling' from emotional evaluation such as pleasure and pain. These are secondary sensations, like symptoms and transitions, whereas the aesthetic feeling is more like a disposition. It attracts or repels (Vihma, 1998: 10). 'Aesthetic feeling has no representation, because it is immediate, inexplicable and un-intellectual consciousness that "runs in a continuous stream through our lives"' (Vihma, 1998: 12). In a similar way Gelernter, in his book on aesthetics and technology, describes aesthetics as the deep, almost poetic

fulfillment in connection to products being designed and experienced (Gelernter, 1998).

ARTISTIC CREATIVITY (ARTISTIC DRIVE)

Design is the purposive application of creativity throughout the process of innovation. Innovation is the successful application of new ideas in practice in the form of new or improved products, services or processes. Creativity is the ability to combine ideas in new ways to solve problems and exploit opportunities (Bruce and Bessant, 2002: 32). Artistic creativity is the ability to successfully embed aesthetic qualities into solutions. There seems to be an on going debate on how much art should, or indeed, resides in design (Banham, 1960; Lawson, 1980; Margolin and Buchanan, 1995; Bayley, 2000). Although there is no clear-cut answer, companies like Alessi, and predominantly Italian designers (Dormer, 1993), produce functioning, beautiful works of art. Even the German Director of Design at BMW notes that 'there is a persistent, inevitable conflict between corporate pragmatism and artistic passion ... our company's fanaticism about design excellence is matched only by the company's driving desire to remain profitable' (Bruce and Bessant, 2002: 38).

EMOTIONS

In his book 'Emotional Branding' Marc Gobe (Gobé, 2001a) lays the groundwork for an emotional branding paradigm. He advocates the development of products and services that provide total sensory experiences as a means of reaching clients' emotions. Chaudhuri (2002) suggests that emotion be explicitly modelled in future conceptualizations of perceived risk of products (Chaudhuri, 2002: 276).

The development of product semantics from the early 1980s has led to some ambition and optimism as to its use. Some designers have considered its potential in ascertaining objective ways of designing emotional content into products (Julier, 2000: 95).

(Howard and Gengler, 2001) provide more evidence that emotions should be taken into account in customers relationships and the way products are designed. There are already emotional brands on the market. One company that uses emotional branding is Apple (Gobé, 2001b: 24). In financial terms there seems to be evidence suggesting that consumers who have an emotional link with a brand are likely to be less price-sensitive (Mahajan and Wind, 2002: 38). Hence, designers are expected to embed future emotional appeal into products (Peto, 1999: 12).

MULTISENSORIALITY

Designers have predominantly focused their attention on the sense of sight neglecting the remaining senses (Zaccai, 1995 10). The emergence of the Experience Economy, advocated by Pine and Gilmore (1998) however, requires designers to engage all five senses in the design process (Pine and Gilmore, 1998). The sensory stimulants that accompany an experience should support and enhance its theme (Myerson, 2001: 89).

'Design is an interdisciplinary practice. It aims is to amalgamate a range of sensory features - of sound, smell, touch, feel, weight, movement and sight' (Julier, 2000: 203).

CULTURAL MULTIPLICITY (CULTURAL DIVERSITY)

The fuel for design is human creativity and innovation. One way of fostering the creation of new and non-redundant ideas, concepts and relationships is to provide a culturally diverse environment (Watson, Kumar et al., 1993). Key findings from *organisational*-level research indicate that diversity benefits include increased creativity, innovation, improved group problem-solving skills and, more cooperative behaviour. Cultural diversity is also being used to stimulate conflict within the group, in order to enhance decision-making in an unstable environment (Eisenhardt, 1999). As the result of cultural multiplicity, diversity in thinking may reinforce additional learning opportunities, flexibility and may foster challenging *organisational*

assumptions (Azevedo, Von Glinow et al., 2001). Cultural multiplicity is seen as an important contributor to the design process (Heskett, 2002).

SUSTAINABILITY OF SOLUTIONS

Despite the fact that some multinational companies have already embedded sustainability into their business models, organizations like the DTI Foresight programme, the Design Council, the Institute of Manufacturing and the higher education sector agree that sustainability is the biggest challenge business and, by default, designers face today (Faud-Luke, 2002: 38).

'Sustainability requires that problems be solved in a whole systems context, which means that there must be an understanding of inter-relationships between the parts of a system, e.g. human and natural capital as well as economic capital, in communities, regions, counties and the world' (Juniper and Moore, 2002: 268).

In order to fulfill the requirements of sustainability, designers' objectives should be judged against the reversibility of the choices made today (Manzini, 1995). The fundamental value of design is 'the ability to help secure the bio-diversity of life in which we are implicated and upon which we depend' (Fry, 1995: 192).

TACIT KNOWLEDGE

Is the 'subjective', personal knowledge, which is defined as the cognitive resource that a person brings to a situation that enables them to think and perform. Polanyi, who coined the term 'tacit knowledge' (Polanyi, 1966; 1973), describes it in the following, classic, sentence: 'I shall reconsider human knowledge by starting from the fact that we can know more than we can tell' (Polanyi, 1966: 4).

There are several characteristics of tacit knowledge that the majority of authors seem to agree upon. These are: (i) this type of knowledge is difficult to write down and formalise, (ii) tacit knowledge is personal knowledge, (iii) it is practical, (iv) and context specific (Ambrosini and Bowman, 2001). In relation to design the most

interesting aspect of tacit knowledge is the driving uncodifiable, meta-creative force of it, which resides in people (Michlewski, 2002: 5). It is being used in the design process as a mix of experience, systematic procedures and intuitive judgements (Jones, 1970: 11; Papanek, 1971: 288; Heskett, 1980: 9; Cross, 1995: 106; Woodham, 1997: 180).

METHODOLOGY

The epistemological foundation of this research is grounded in constructionism. It uses interpretivism and phenomenology as the sources of knowledge about the object of analysis. (Crotty, 1998: 5) As the research method we have chosen embedded multiple case study (Yin, 1994: 42).

In terms of the data collection method the research process was composed of semi-structured, group interviews. These were focus groups consisting of six to twelve people. The reasons for choosing focus groups was their social orientation, which provided relevant contexts, more natural and relaxed atmosphere than one-to-one interviews, low cost and relatively high validity of results (Marshall and Rossman, 1999: 115). As a means to support the primary method, individual questionnaires were developed and basic statistical tests were carried out (Yin, 1994: 86; Gillham, 2000: 80). Prior elements of the research process included participant observation in a design research unit, which lasted one year; individual unstructured and semi-structured interviews with design scholars, consultants and researchers; and one organisational culture questionnaire in the aforementioned design research unit.

The distinctiveness of values instigated by working in design disciplines was set against the perceptions of people working the business domain. The assumption made in the process was that the participants socialized values from their environments whilst dealing with the problems of internal integration and external adaptation (Schein, 1992).

ANALYSIS OF GROUP INTERVIEWS

In the process of this research three groups from Northumbria University have taken part in a value assessment, twenty-seven people in total. The first group represented the Centre for Design Research (CfDR) in the School of Design. Thirteen people returned completed questionnaires and took part in the focus groups. Eleven participants declared design as their professional domain, two declared management/organisational studies. In this group there were eight researchers, two professional consultants and three managers.

The second focus group consisted entirely of the School of Design teaching staff. Eight people returned questionnaires and took part in the discussion. Seven were design teachers, one indicated 'design manager' as their leading role.

The third focus group was composed of Northumbria Business School (NBS) staff. There were six participants of the group interview, all of whom handed in completed questionnaires. Among them were three teachers, two managers and one researcher.

The questionnaires were distributed at the beginning of each session. The participants were asked to complete them before moving on to a moderated discussion. Each of these sessions was taped and later transcribed. The average time of the exercise varied between an hour, and an hour and a half. The participants were asked to talk about each of the attributes listed in the questionnaire and reach a consensus on the groups' emotional investment on the scale, which spanned from 'strong positive' (1) to 'strong negative' (5) emotional investment.

The statistical part of the analysis uses non-parametric tests of the questionnaires to support the qualitative and interpretivist core of this research. Even though these findings may appear to be concrete and conclusive, the reader is encouraged to consider them predominantly as an aid to understanding these cases in the process of descriptive, more explorative discussion.

STATISTICAL ANALYSIS OF QUESTIONNAIRES

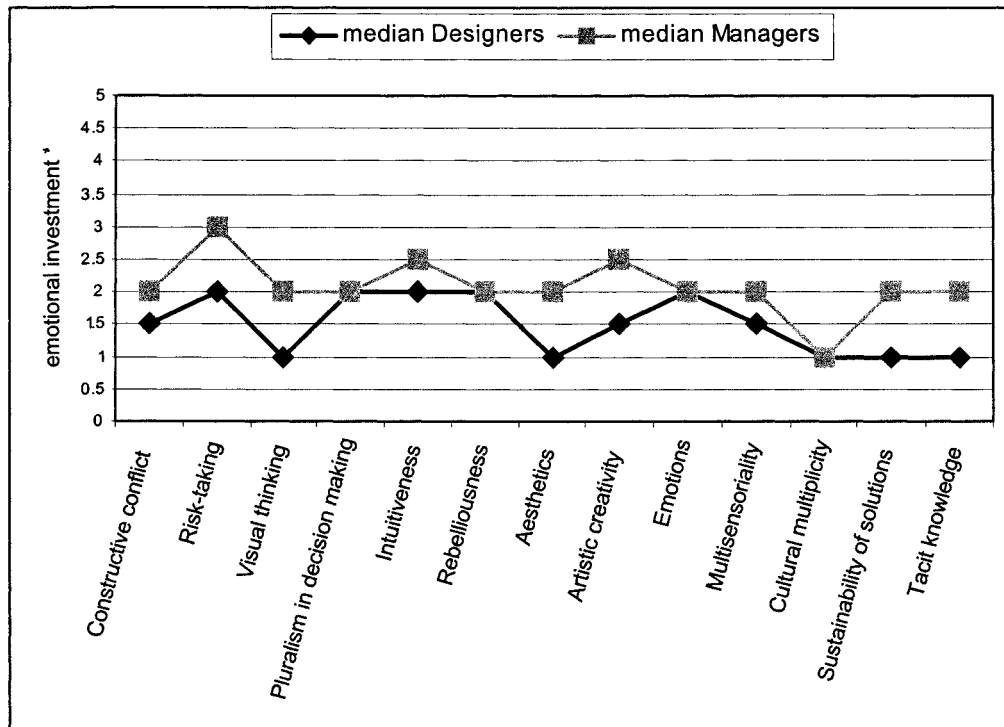


Figure 1 Median of responses from individual questionnaires – designers vs. managers *1. Strong positive, 2. Positive, 3. Neither positive nor negative, 4. Negative, 5. Strongly Negative

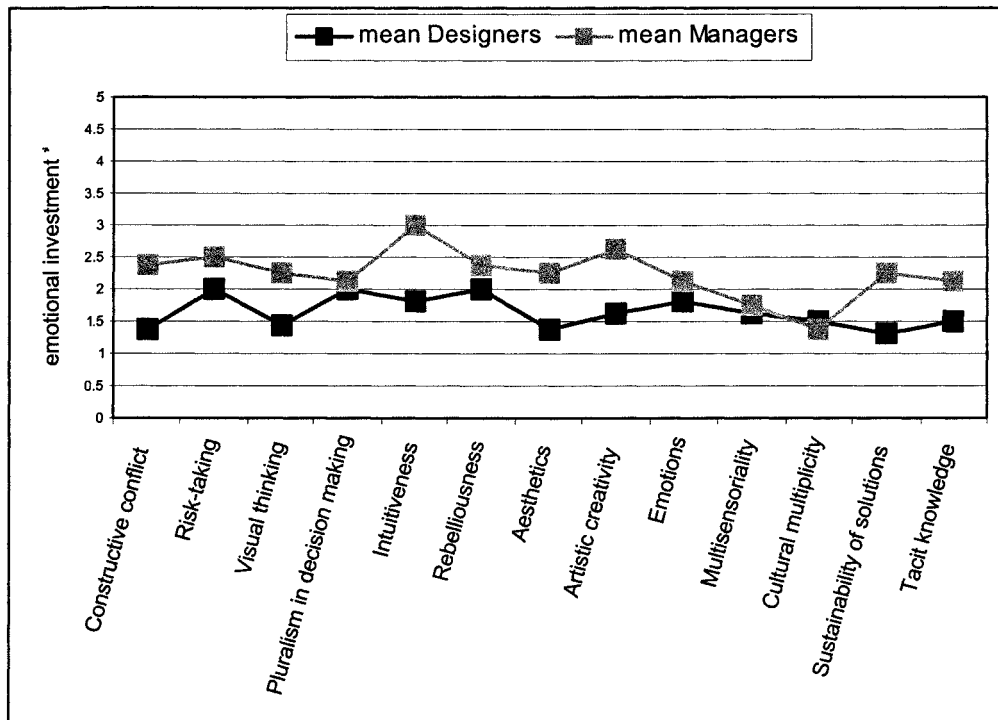


Figure 2 Mean of responses from individual questionnaires – designers vs. managers *1. Strong positive, 2. Positive, 3. Neither positive nor negative, 4. Negative, 5. Strongly Negative

In order to find out more about any significant differences between designers and managers in terms of their emotional attachments to the attributes listed in the questionnaire, we have decided to test the hypothesis using non-parametric Mann-Whitney U Test. The reason was that we knew nothing about the distribution of the variables, and also because there were two independent samples involved, namely, designers from the CfDR and from the School of Design, and managers from the Newcastle Business School. The significance level was set at 5% ($\alpha = 0,05$).

The null (H_0) hypotheses and alternative (H_1) hypotheses were defined as:

H_0 : The two samples come from the same population

H_1 : The two samples come from different populations

RESULTS

	Constructive conflict	Risk-taking	Visual thinking	Pluralism in decision making	Intuitiveness	Rebelliousness	Aesthetics	Artistic creativity	Emotions	Multisensoriality	Cultural multiplicity	Sustainability of solutions	Tacit knowledge
Mann-Whitney U	52,0	45,0	28,0	56,5	30,0	66,5	34,0	27,0	55,0	64,0	68,0	25,5	40,0
Wilcoxon W	242,0	235,0	218,0	246,5	201,0	256,5	224,0	217,0	245,0	235,0	104,0	215,5	230,0
Z	-	-	-	-	-	-,604	-	-	-	-,501	-,259	-	-
	1,374	1,726	2,814	1,177	2,449		2,424	2,790	1,340			2,997	2,129
Asymp. Sig. (2-tailed)	,170	,084	,005	,239	,014	,546	,015	,005	,180	,617	,796	,003	,033
Exact Sig. [2*(1-tailed Sig.)] (a)	,217	,106	,009	,307	,019	,621	,025	,008	,283	,683	,849	,005	,058

Figure 3. Test Statistics (b)

(a) Not corrected for ties.

(b) Grouping Variable: Professional domain

As we can see in Figure 3, in six out of thirteen attributes the sig. value does not exceed **0,05**, which means we can reject the null hypothesis at the 5% level of confidence. In other words, there is sufficient evidence to suggest that the emotional attachment of designers and managers is significantly different in terms of these six attributes. These findings indicate that designers tend to have *visual thinking*, *intuitiveness*, *aesthetics*, *artistic creativity*, *sustainability of solutions* and *tacit knowledge* closer to their hearts than managers. This naturally relates only to two studied

groups and cannot be generalized. However, the result gives some initial confidence that further research in this respect might lead to some interesting insights.

DISCUSSION

CONSTRUCTIVE CONFLICT

During the discussion some designers expressed the view that it would be more appropriate to talk about 'constructive interaction'. They were concerned with the negativity of the word 'conflict'. The need for respect and trust was mentioned. The CfDR group seemed to agree to one member saying: 'one needs to leave the ego at the door'. With the application of boundary conditions concerning friendliness of the environment, designers agree that they, as a group, have strong emotional investment in constructive conflict. The group from the Business School declared 'positive emotional investment' towards constructive conflict. Some of them expressed, however, that from their experience it is not always straightforward and positive. It was the investigators overall impression that the people from the NBS were less enthusiastic about constructive conflict. This was also slightly visible in the statistics, but not on a significant level.

RISK-TAKING

Despite a widely held view that both professional disciplines of design and management involve and support risk taking, participants of the focus groups opted for more neutral, or even risk-averse end of the scale. It could be, that their personal aversion to risk-taking was brought by some of them to the academic environment. The majority view was that it is 'an unpleasant necessity' to take risks and agreed on 'neither positive nor negative emotional investment'. Their opinions in our view are closer to the negative end of the continuum. The groups consisting mainly of designers were not as reserved towards risk-taking though they expressed some concerns. The agreement of the group was 'positive emotional investment' but with a condition to manage risk accordingly. The statistical results did not indicate

any significant differences between designers and management academics, but again, there was a sign of the former being less risk-averse.

VISUAL THINKING

This is the first of six attributes flagged by statistical test as significantly different in view of designers and managers academics. The content analysis of the discussions appears to support and strengthen that result. Not only did designers instantly agree on the great importance of visual thinking, but also their acknowledgement of it seems to go far deeper than this of scholars from the Business School. For example, designers view visual thinking as a means of understanding rather than simply presenting the information. Managers, on the contrary, seem to have very limited idea about visual thinking. They agreed on 'positive emotional investment' predominantly on the basis of understanding visual thinking as a visual representation of ideas. They agreed that their natural mode of thinking was verbal. From the observations we have made, we conclude that designers have strong emotional investment in visual thinking.

PLURALISM IN DECISION-MAKING

It appears that all groups agreed on either 'strong positive' or 'positive emotional investment' in this attribute. Managers without hesitation opted for 'the positive'. Designers took some time to develop the idea amongst themselves. They were not as convinced. In the CfDR the view emerged, that on the conceptual level it is positive, but on the decision-making level it could also be negative. This happens because designers, as one of them put it, often '...come and lead consumers into new directions'. They said that pluralism in the case of designing completely new products might become an impediment. The group of teaching staff from the School of Design reported similar conditions to pluralism. It seems natural that designers would make some decisions in a less pluralistic fashion. We suspect, even though the agreement of both groups of designers was 'positive emotional investment', and the outcome of individual questionnaires was also positive, that pluralism in decision-making is hardly designers' strong, shared value.

INTUITIVENESS

Both the outcome of the in-depth analysis of discussions and the statistical significance on a considerable level suggest that designers and management scholars, who took part in the study, have distinct values concerning intuition. Designers view intuition as something inherent in their professional domain. The importance of using intuition appears to be a commonly held belief. Contrary to managers, designers openly admit basing their decisions on intuition. With the Business School this is clearly not the case. They prefer following well established structures and methods. Their view was that intuition causes prejudice and biases and should be avoided. This is a predominantly negative emotional investment in intuition. Apart from a few dissenting voices, the difference between managers and designers is apparent. The latter group tends to acknowledge the use and importance of it, whereas the former group would rather not raise it unless they really have to.

REBELLIOUSNESS

There is not much disagreement between the groups in respect to being an oppositionist or showing signs of rebelliousness. Both, the designers and managers see themselves as having 'a positive emotional investment' associated with this attribute. Designers stressed the importance of taking the opposite view and looking at a problem from completely different points of view. As one designer put it: 'It's constructive rebellion really, that's what we're looking for'. Looking closely at the comments made by the participants from the NBS we see that there is a second bottom to it. They said that it does not pay to be 'the odd one out'. They finally agreed that they want to go with the 'positive emotional investment' but it was not unanimous.

AESTHETICS

In aesthetics, it seems, there are some significant differences between designers and managers. As explained in previous parts of this paper, aesthetics is understood in more profound terms than just physical appearance. Using this broadened definition

as a signpost we are inclined to conclude that designers represent 'strong positive emotional investment', whereas managers from the Business School 'neither positive nor negative emotional investment'. The statistical test of individual questionnaires picked up a significant difference between these two groups, and so did our observations of the focus group discussions. We believe that it is not something managers feel comfortable with. Designers, on the other hand, did not have any problems with understanding what it means or agreeing on 'strong positive emotional investment'. Some of them also appeared to understand the more philosophical element of aesthetics. Hence, there are strong reasons to believe that designers share this value with a strong conviction.

ARTISTIC CREATIVITY

This is another attribute, which shows significant differences in emotional investment expressed by designers and managers. High level of statistical significance is strongly supported by the contents of discussions. Comments made by the people from the Business School indicated that they are completely satisfied with sticking to the 'function'. They referred to artistic creativity as something unnecessary and time-consuming in their profession. In contrast, both groups of designers agreed on 'strongly positive emotional investment'. One member of staff of the School of Design said: 'If art is about provoking reactions, which I think it is, then I don't see why design shouldn't perform that as "a" function'. Our overall impression is that there is a natural willingness to engage in artistic imagination by designers and there isn't such an attitude presented by managers.

EMOTIONS

In terms of emotional investment in the willingness to embed future emotional reactions in products and services, designers and managers responded rather similarly. However, the depth of understanding of the issues involved was far greater among designers. Where managers struggled to translate it into familiar situations, designers asked questions of an ethical nature. Even though there is no statistically significant result based on individual questionnaires, having listened to the

conversation we would see management scholars as having more neutral emotional investment into engaging emotions than designers.

MULTISENSORIALITY

This term had to be explained to the participants of all three groups. The results seem to indicate that everybody has 'a positive emotional investment' in engaging many senses in their work. For example, one designer said: 'You very definitely make conscious decisions about sensorial issues. For example you would very definitely, in spite of all the other factors positive, reject fabric that smells revolting.' There were some voices which expressed using all senses simultaneously as an inherent and non-dividable quality of designers. 'We don't design in monochrome or flat texture. When you're designing you're occupying space.' said one of them. As far as managers are concerned they were less "at ease" with this attribute typified by the reaction to it: 'In terms of my personal feelings I would engage it, but I don't think you could say that about management in general.'

CULTURAL MULTIPLICITY

Comments made in relation to this attribute were almost unanimous. They hovered very closely to 'strong positive emotional investment' in virtually all cases. It looks as if the idea of co-existing and benefiting from various cultures is already deeply embedded in values of managers and designers. This may be due to the influence of the more basic, national culture. British culture is heterogenic and embraces many different cultures. In reality there is no escape from this multitude of cultural backgrounds in majority of working environments in today's Britain. Instead, people seem to have got used to benefiting from cultural diversity.

SUSTAINABILITY OF SOLUTIONS

Very strong statistical significance suggests that designers differ from managers in their emotional investment here. This finding is backed by our observations and the outcomes of the group interviews. Designers tend to have 'a strong positive emotional investment', whereas managers 'neither positive nor negative'. One person from the Business School said: 'I'm not sure if what I do will survive. The methods change and what I'm doing now will not have great relevance in the future'. Designers, on the other hand, expressed more positive views. They have reservations in relation to a complete change in future circumstances but overwhelmingly agreed that they have strong emotional commitment in taking the responsibility for current decisions in respect to their sustainability in foreseeable conditions.

TACIT KNOWLEDGE

Statistical significance was recorded, but it was rather weak. The group interviews point out quite 'strong positive emotional investment' shown by designers and 'positive investment' by managers. Designers expressed the view, that tacit knowledge is hidden, difficult to access and unlock and very important in their work. Sometimes it seems obvious but in fact it constitutes the building block of many solutions. The group reaction gave us the idea that most of them share this view. There seems to be an important, difficult to express, component of the work of designers. The participants of the Business School group interview were convinced that tacit knowledge is mainly a substitute for experience. When tacit knowledge was juxtaposed with intuition they refuted that these two had anything in common. Our conclusion is that managers have generally good feelings towards tacit knowledge and the value of it, but their perception of it is relatively limited when compared with that of designers. Designers are more solid in their emotional investment in, and comprehension of 'tacitness' of their knowledge.

CONCLUSIONS

Because the participants were asked for the questionnaires to be filled in very quickly, emotional reaction to the questions in the questionnaire, could be treated as a proxy for an individual emotional investment. At the later stage the focus groups included more in-depth discussion, which substantially enriched the questionnaires, and gave a fuller understanding of the situation. This is the reason why both sources were given equal attention.

The influence of wider circles of culture is evident on every level of the analysis. There is a difficulty associated with assigning certain values to specific bigger or smaller environments in which people work and live. In the case study, which has been described, we have the level of British national culture, followed by an academic environment, followed by the influences of the individual disciplines of design and management/organisational studies. In an attempt to distinguish the values of just one particular field within this setting, we must apply much caution. In addition to that, this part of the research focused on the integrative paradigm of studying organisational cultures (Martin, 1992). This approach assumes that a set of common or shared values exists. Nevertheless, the results of the research depicted in this paper indicate that there might be a set of design-derived values that could contribute to predominantly management-driven organisational cultures.

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Appendix C – Design and Innovation Education Centre Report

Report on the cultural themes emerging from the work of DIEC (Design and Innovation Education Centre) group.

Summary

This document is a result of a short but intensive analytical effort to bring to light some of the most important aspects of the forming working parameters of the DIEC project. It is exclusively based on the analysis of a series of 54 written documents that are each a summary of outcomes of workshops, discussions and other group activities, which took place during the Hebden Bridge meeting in November 2003.

It is important to mention that the researcher was not involved, at any stage, in preparing or running any of these workshops. He also did not participate in the event. The only data available were the reports provided by the facilitators.

As a result of a qualitative analysis, six major dimensions have been nominated to explain the emergent understanding of the forces at play. These are: *'focus on the process'*, *'focus on the individual'*, *'social compatibility'*, *'ethical conduct and politics'*, *'mastering space'* and *'financial feasibility'*. They all harbour 41 narrower subdimensions, which indicate what people involved in the DIEC prefer and find important, with regard to the project. In a sense, these constructs can be treated as a benchmark for the emergent organisational culture. During the course of the on-going process of the development of the DIEC project these dimensions will be given meaning to by trying to resolve real-life issues and by making organisational decisions.

1. Introduction

The object of this study can't be, as yet, defined as 'an organisational culture'. In order for it to become 'a culture' it will have to be involved in an extensive experience in dealing with challenges of *internal integration* and *external adaptation* (Schein, 1992). Neither of the two building blocks of an organisational culture, namely shared perceptions and shared practices, has yet formed (Hofstede, 1991). In this respect it is a culture in making, entering curial, early stages of its formation. Elements that might be analysed at this point could be, at best, described as espoused values and emergent themes (Argyris and Schön, 1974; Schein, 1992). They are, however, the manifestations of the existing mental maps of individuals members (Senge, 1990), which have, in many cases, crystallised as a result of the powerful forces within the national and occupational environments. According to some authors from the organisational theory field, occupational cultures are particularly influential (Van Maanen and Barley, 1984; Morgan, 1986; Bloor and Dawson, 1994; Hofstede, 1998; 2001). In the case at hand this inevitably points us to the design occupation. As previous research indicates a coherent, conceptual framework for studying occupational culture of design, as such, does not exist (Bruce and Bessant, 2002; Michlewski, 2003). Therefore this document could be seen as step towards increasing the existing knowledge base.

2. Method

The analysis was based on both, quantitative and qualitative methods. The core strategy draws on 'Grounded Theory' (Glaser and Strauss, 1974; Strauss and Corbin, 1990). It is exploratory in nature and uses interpretative methods (Van Maanen and Barley, 1984; Ader and Mellenbergh, 1999).

In the course of the research the following question has been asked:

- *What dimensions and categories empirically emerge from the data?*

In order to answer this question, a number of issues were under scrutiny. These included:

- What did people talk about?
- What vocabulary was most commonly used?
- What kind of information people were seeking?
- What are the causality expectations? (causes and effect expectations)
- What are the normative attributions? (offering advice and recommendations)
- What are the positive and negative forces in relation to important goals?

The process was divided into 3 stages:

Stage 1 – exploratory word frequency count

Stage 2 – semantical clustering

Stage 3 – coding (analysing) and synthesising the emergent themes

They are briefly explained in sections 3.1, 3.2 and 3.3.

3. Results and discussion

3.1 Stage 1 – exploratory word frequency count

This stage involved exploration of the document by means of finding out frequencies of words and root words. It was assisted by thesaurus search and word truncation. This process had an iterative nature and run concurrently with the ‘Stage 3’. The results revealed an interesting pattern, which then had to be synthesised and clarified. Table 1 presents the frequencies of words within the Report. Figure 1 shows graphical representation of the result.

word/root word	number of occurrences	word/root word	Number of occurrences
Process	86	resource*	20
chang*	75	cross*	19
space*	74	econom*	19
value*	72	mone*	17
creativ*	66	form	16
Team	57	inspir*	14
different*	56	member*	13
radical*	54	conscious*	11
service*	46	ethic*	11
connect*	44	honour	11
Group	44	practical*	10
individual*	42	financial	9
communicat*	41	conflict*	9
Staff	41	innovat*	9
principle*	40	emotion*	8
personal*	36	aesthetic*	8
Business	33	flexi*	8
Self	32	mentor*	8
Practice	31	wisdom	8
sustainab*	26	intuition	7
product*	23	global*	7
language*	23	funding	7
research*	23	art*	5
passion*	21	lateral*	4
cultur*	20	risk*	4
human*	20	visual*	4
reflect*	20	interdisciplinary	3
Body	20		

Table 1. Frequency table of words/root words extracted from the Report.

*the word was truncated during the search in order to create richer categories

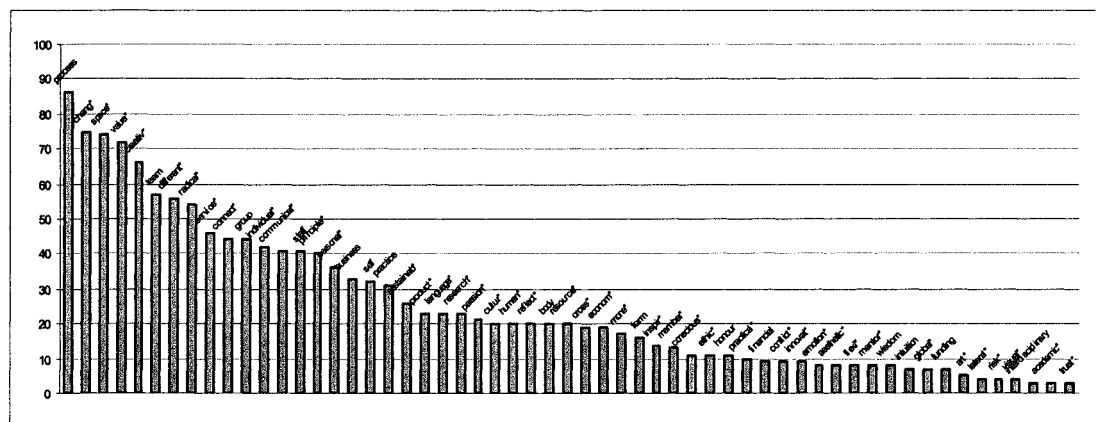


Figure 1. Frequency graph of words/root words extracted from the Report.

3.2 Stage 2 – semantical clustering

The next step involved semantical clustering of the list. As a result several ‘thick’ groups emerged. There are three broad categories which were separated from the rest due to their high scores, which indicated they could have formed the central concepts. These are: *process, space and value*. The list of concepts grouped according to their internal, semantic similarity and sorted according to their overall scores, is as follows: *individual, society, business, team, creativity, ethics and wisdom, aesthetics, research*. The rest of the words seem to represent predominantly normative concepts, which could be applied to the aforementioned groups.

In principle, stages 1 and 2 have been used to mark the ‘territory’ of the document. Their major function, later on, was to help generalise and link coded categories taken directly from the sentence-by-sentence analysis of the Report.

word/root word	number of occurrences	word/root word	number of occurrences
<i>broad semantic categories</i>			
Process	86	"ethics and wisdom"	
space*	74	principle*	40
value*	72	ethic*	11
<i>groups according to semantic similarity</i>		honour	11
"individual"		wisdom	8
individual*	42	trust*	3
personal*	36		73
Self	32	"object"	
human*	20	service*	46
conscious*	11	product*	23
mentor*	8		69
	149	"aesthetics"	
"social"		form	16
connect*	44	aesthetic*	8
communicat*	41	art*	5
language*	23	visual*	4
cultur*	20		33
conflict*	9	"research"	
	137	research*	23
"business"		academic*	3
Business	33		23
resource*	20	<i>normative/descriptive categories</i>	
econom*	19	chang*	75
Money	17	different*	56
commercial*	12	radical*	54
financial*	9	sustainab*	26
global*	7	passion*	21
Funding	7	reflect*	20
	124	cross*	19
"team"		practical*	10
Team	57	emotion*	8
Group	44	flexi*	8
	101	risk*	4
"creativity"		lateral*	4
creativ*	66	interdisciplinary	3
inspir*	14		
innovat*	9		
Intuition	7		
	96		

Table 2. Frequency table of words/root words extracted from the Report and grouped semantically.

3.3 Stage 3 – coding (analysing) and synthesising the emergent themes

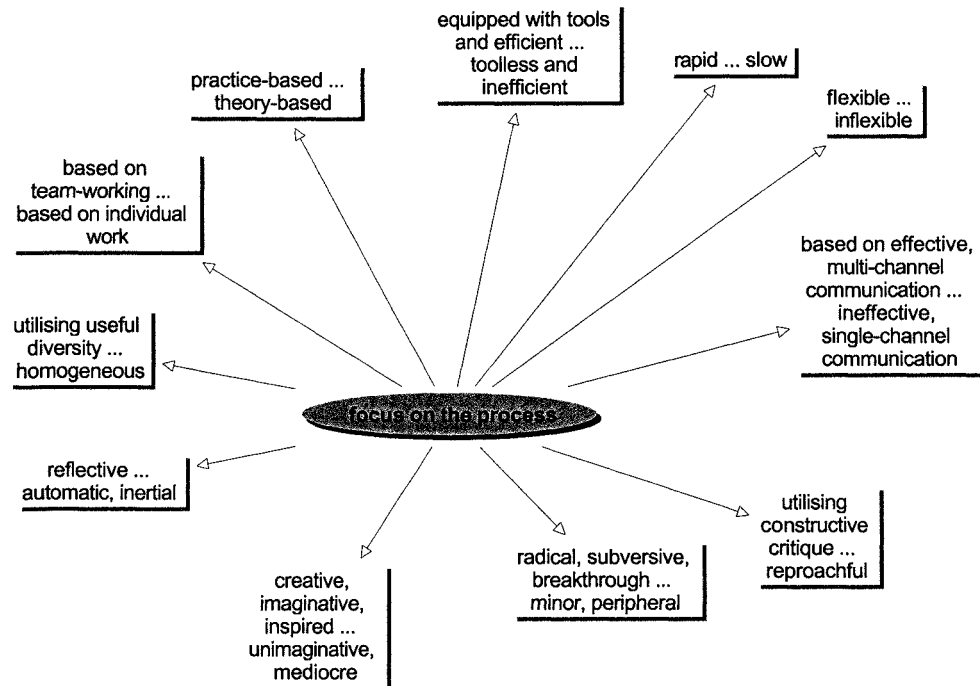
In this stage, which run independently of stages 1 and 2, open and axial coding (Strauss and Corbin, 1990) was used in order to form the dimensions of the emergent culture. The aim here was to create broader categories which were central, with respect to peoples' perceptions, and best reflected the overarching context. This was then tested against the coherence of links they have generated with other, smaller categories, as well as their reflection in the quantitative results from sections 1 and 2.

Regrettably, any longer discussion on the process behind forming and clarifying categories from the open and axial coding and the later stages of theory emergence is not possible in this document. It is due to the time constraints and the length at which it would have to be described.

Instead, the final results are presented in a concise form of *tables* accompanied by *diagrams*¹. These represent the continua of smaller dimensions which have been derived from the coded categories. Very often participants would express the idealistic view, which was translated into one end of the continuum. Where not present, the researcher tried to assign a logical and contextually derived, opposite to the idealistic, standpoint. It is important to stress that these cannot be seen as shared values yet. They can be seen as blank forms, which will gradually be filled in, during the process of joined action and decision making.

¹ Boxes in the diagrams contain '...' symbol which should be read: '...as opposed to...'

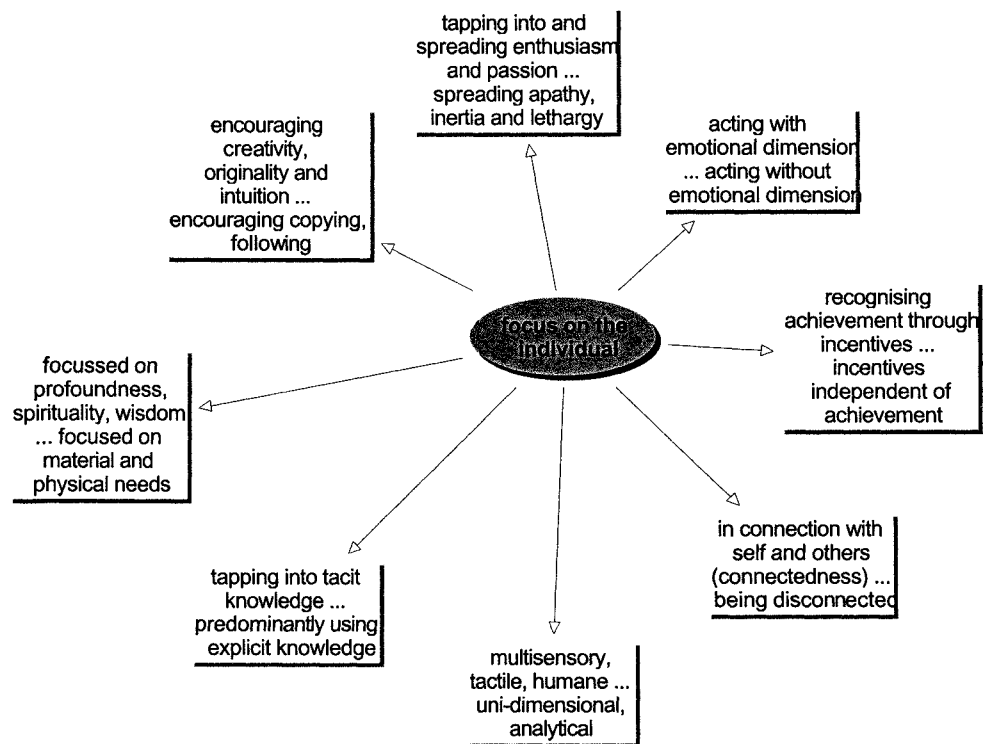
3.3.1 Focus on the process' - dimension



FOCUS ON THE PROCESS

creative, imaginative, inspired	unimaginative, mediocre
radical, subversive, breakthrough	minor, peripheral
utilising constructive critique	reproachful
based on effective, multi-channel communication	ineffective, single-channel communication
Flexible	inflexible
Rapid	slow
equipped with tools and efficient	tool-less and inefficient
practice-based	theory-based
based on team-working	based on individual work
utilising useful diversity	homogeneous
reflective	automatic, inertial

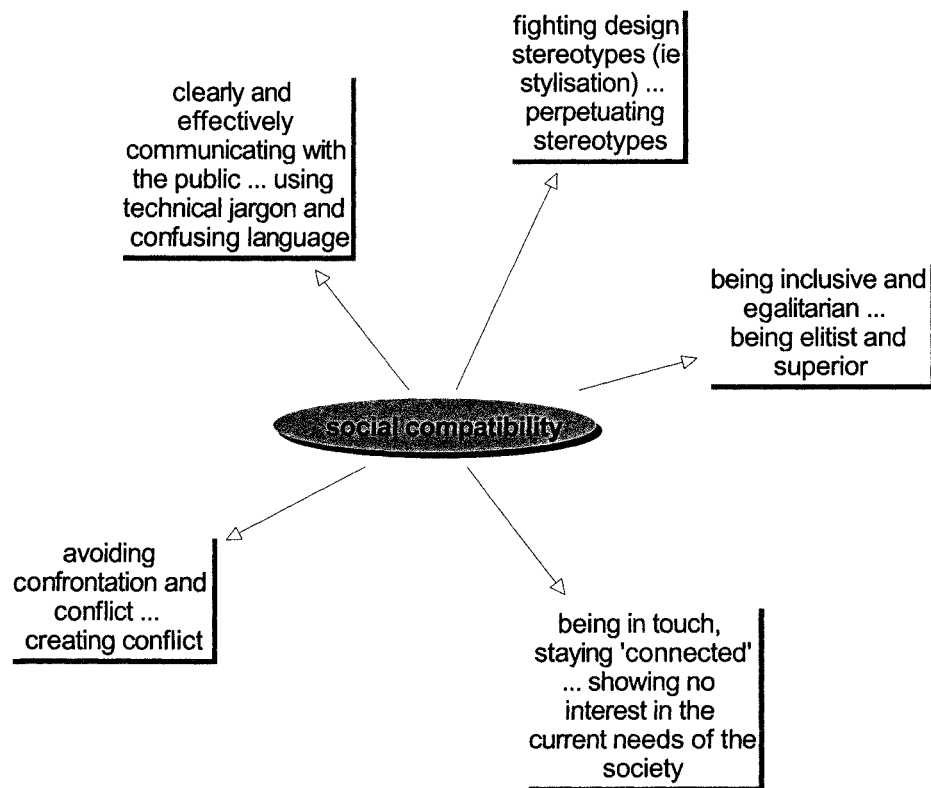
3.3.2 'Focus on the individual' - dimension



FOCUS ON THE INDIVIDUAL

encouraging creativity, originality	_____	encouraging copying, following
tapping into and spreading enthusiasm and passion	_____	spreading apathy, inertia and lethargy
acting with emotional dimension	_____	acting without emotional dimension
recognising achievement through incentives	_____	incentives independent of achievement
in connection with self and others (connectedness)	_____	being disconnected
multisensory, tactile, humane	_____	uni-dimensional, analytical
tapping into tacit knowledge and intuition	_____	predominantly using explicit knowledge
focussed on profoundness, spirituality, wisdom	_____	focused on material and physical needs

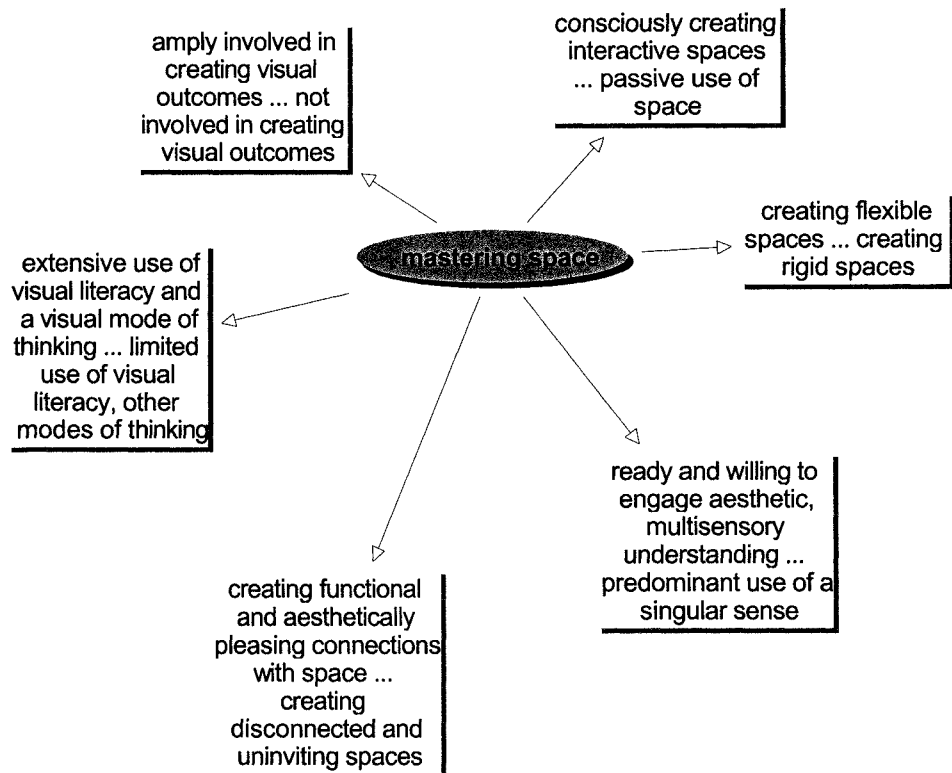
3.3.3 'Social compatibility' - dimension



SOCIAL COMPATIBILITY

clearly and effectively communicating with the public	using technical jargon and confusing language
fighting design stereotypes (i.e. stylisation)	perpetuating stereotypes
being inclusive and egalitarian	being elitist and superior
being in touch, staying 'connected' with the society	showing no interest in the current needs of the society
avoiding confrontation and conflict	creating conflict

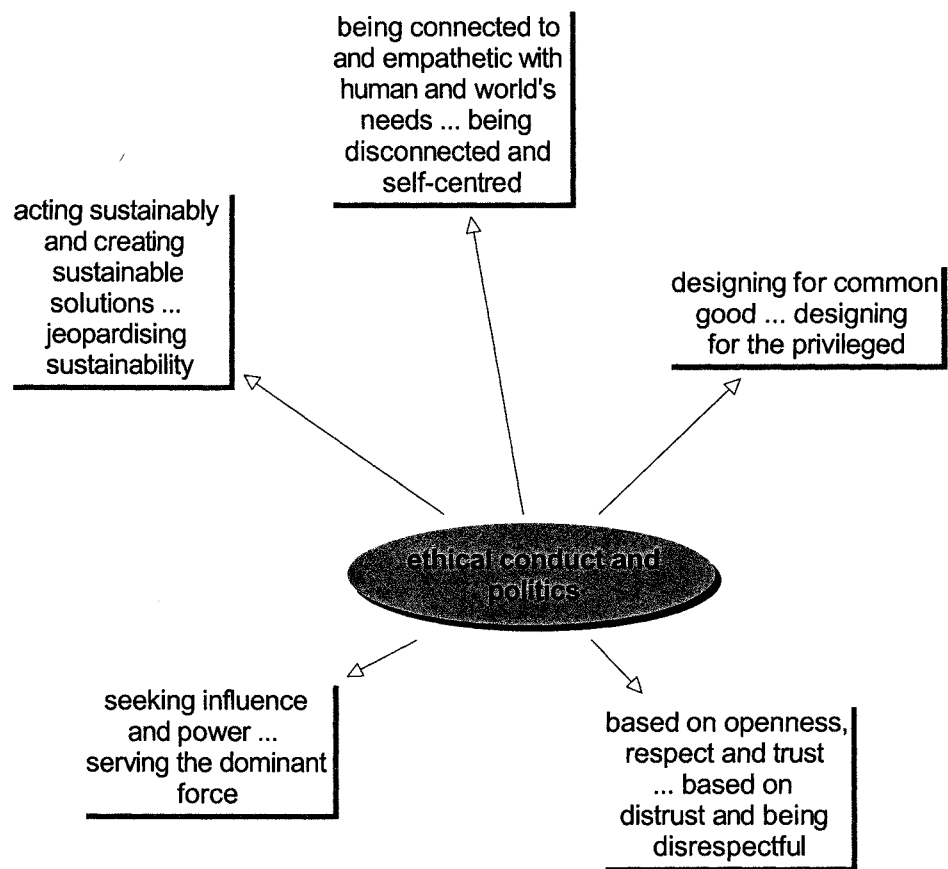
3.3.4 Mastering space' - dimension



MASTERING SPACE

creating functional and aesthetically pleasing connections with space	creating disconnected, uninviting spaces
ready and willing to engage aesthetic, multisensory understanding	predominant use of a singular sense
creating flexible spaces	creating rigid spaces
consciously creating interactive spaces	passive use of space
amply involved in creating visual outcomes	not involved in creating visual outcomes
extensive use of visual literacy and a visual mode of thinking	limited use of visual literacy, other modes of thinking

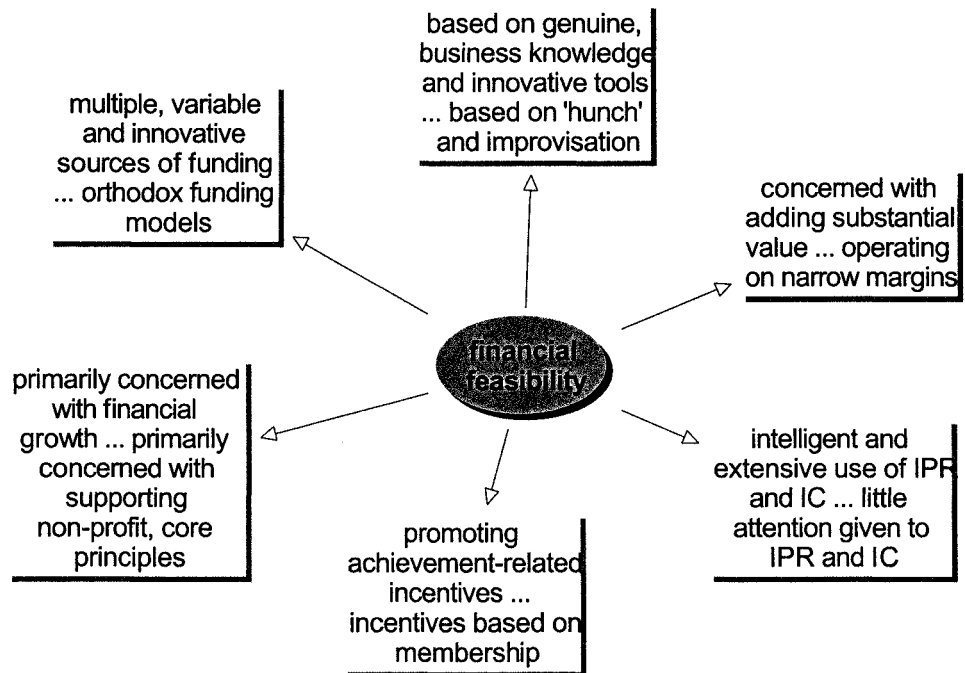
3.3.5 'Ethical conduct and politics' - dimension



ETHICAL CONDUCT AND POLITICS

acting sustainably and creating sustainable solutions	jeopardising sustainability
seeking influence and power	serving the dominant force
based on openness, respect and trust	based on distrust and being disrespectful
designing for common good	designing for the privileged
being connected to and empathetic with human and world's needs	being disconnected and self-centred

3.3.6 'Financial feasibility' - dimension



FINANCIAL FEASIBILITY

primarily concerned with financial growth		primarily concerned with supporting non-profit, core principles
based on a genuine, business knowledge and innovative tools		based on 'hunch' and improvisation
multiple, variable and innovative sources of funding		orthodox funding models
promoting achievement-related incentives		promoting incentives based on membership
intelligent and extensive use of IPR and IC		little attention given to IPR and IC
concerned with adding substantial value		operating on narrow margins

4. Conclusions and recommendations

It is likely that the new, emergent culture will be finding workable solutions and settling within this framework. Members of the DIEC organisation will eventually internalise what is working and what is not. *Theories-in-action* will be created as opposed to *espoused values* and openly held views (Argyris and Schön, 1974). It is at this point that the real motives, prejudices and unconscious *assumptions* will entrench themselves in the new culture. Therefore, it is vitally important to unravel these issues and tackle them *head-on* as soon in the process as possible. It is my belief that the most important assumptions are hidden in the following, in *my* opinion, paradoxical and contradictory, or to say the least, inconsistent principles, which emerged from the analysis:

1. seeking influence and power versus acting on the grounds of sustainability, responsibility and ethics;
2. acting sustainably versus seeking radicalism and thrill;
3. striving for profit and financial incentives versus focusing on the holistic and profound needs of the individual (individual level);
4. striving for financial growth versus remaining committed to the overarching non-profit principles (organisational level);
5. nurturing ethos 'individual as a solution provider' versus ethos 'team as a solution provider' (designer as a celebrity vs. designer as a team member).

As the last note it is worth mentioning how important the initial leadership is in helping to develop a healthy and preferred organisational culture. It is difficult to overestimate the role of leaders in entrenching shared practices, shared values and assumptions. It is a widely held view that it is far more difficult to change the culture than to properly create it from scratch. Among the most important mechanisms associated with leadership and responsible for shaping any particular culture are:

- what leaders pay attention to, measure and control;
- how they react to critical incidents and organisational crises;
- observed criteria they use while allocating resources, rewards and status;
- their deliberate teaching and coaching method;

- observed criteria by which leaders recruit, select, promote, retire, and excommunicate organisational members (Schein, 1992).

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Appendix D – Sample of Questions for Semi-Structured Interviews

Sample questions used during semi-structured interviews (Wolff Olins

Interviewee)

- Q: Can you tell me what your **background** is and what your way to **WO** was?
- Q: Have you worked in a **non-design environment**? If yes how do they differ? If not than why design?
- Q: How do you feel working with **designers** ? What is the nature of your relationship? – give as much detail as you can think of
- Q: What do you find particularly **interesting, stimulating in design** and designers and what are the things that irritate you?
- Q: What kinds of **trajectories, attitudes and principles** they bring with them?
- Q: Could you describe a situation in which you had to **intervene** in one way or another in amongst designers? What were the circumstances?
- Q: What is the biggest **contribution** a designer makes to the team in **WO**?
- Q: What is the biggest **mistake** a designer can make in **WO**?
- Q: What kinds of people are considered **exceptional designers** in **WO**? What are their **attitudes, values**?
- Q: What are the **benefits** of working with **WO** as **perceived by outsiders**
- Q: what do they find astonishing? Amusing? What they dislike?

- Q: What is the nature of the integration of managers and designers inside **WO?** How about external contacts and designers?
- Q: What are the **difficulties** whilst working with them/for them?

Appendix E – Interview Sample I

Interview with Senior Consultant (Design Director), Philips Design

(full transcript version)

Interviewer: I've heard from the boys here that you are alumni of Northumbria; could you talk me through your background please?

Interviewee: I'm a Yorkshire-born Englishman who's never worked one day of his professional career in the UK. I studied Design for Industry, what was in those days Newcastle Polytechnic. I graduated in 1985. I was very fortunate in my final year to go through the Annual Design Bursary competition to end up winning bursary competition sponsored by Philips Electronics back in Holland. At that time I didn't think much of it, so I was of course very happy to win but at the time I was working extensively towards my final year, I was submitting my portfolio to the RCA to study Masters and then suddenly came this bizarre opportunity to actually, to purely visit the design studio at Philips Design in Eindhoven, it was called Corporate Industrial Design Centre. Been a young and poor student and everything I wasn't going to turn down a free offer to paying a visit to a remote city in Holland for a day. They treated me like a king whilst being a student, put a flight ticket in my hand, there I was suddenly arriving in the city of Eindhoven in Holland being shown this huge design company, meeting with and shaking hands with real designers in between feeding me and entertaining me I was also entertaining them by walking through my portfolio and I never really stopped thinking about it until they offered me a job. It hadn't really occurred to me it was a job interview, to be honest I returned back to school the following day and the rest of my mates looked at me and said – what happened? – still shell shocked a little bit that they offered me a job. I had a job offer 3 months before I graduated. At the time I took some, I took a little while making the decision – was the following week I was accepted the RCA as well. So I had to make a choice. I do recall, I sat down and spoke with xxxxxxxx about it and at certain stage he said to me – well, some people will probably try their entire life to work for company such as Philips, no matter how highly educated they are and how much experience they have, he said – you've been given an excellent starting point. There's two ways you can look at it – you can take the opportunity now and see where it leads you and you are still young enough to go back into education again, at a later stage. You can

alternatively take the route of education and apply to Philips again afterwards, the choice is yours but it's not a bad starting point. And at that stage, I guess the idea for a professional company struck me more than continuing my education. The other thing was that we were very successful that year at Newcastle. 5 of us were given places at the RCA and as a result I kind of sacrificed myself. I also had this opinion – ok if 5 of us are going, had been accepted out of 9 people to the RCA then it was going to be very unusual Masters course, where most of my classmates were going to be my fellow Newcastle graduates.

Interviewer: When was it?

Interviewee: 1985, of my classmates of 1985 the most renowned, one of my closest schoolmates is Tim Brown, who went on to... Tim went on to the RCA of course and has gone on from strength to strength of course. So I've spent... it's gone on for almost 20 years now, I've been a professional designer. I'd left England with the idea I was going to go to Holland for a couple of years and get some experience under my belt and because it is such a big company, because it does offer so many different opportunities and because I'd found out I'm not the archetypal Brit, I'm not. I kind of had this feeling I was born to work abroad. As I say, I never worked one day in the UK I probably don't contemplate that I ever will work a day of my professional career in the UK. I naturally found myself at home, living and working abroad.

Interviewer: Whilst working in Philips over these years, what kinds of jobs you've been doing?

Interviewee: I came as a young, naive designer as a product designer and industrial designer. I've seen a lot of change within the company. I've seen Philips Design grow into the organisation it is today. When I started Philips Design was half the size it is today. It had the advantage that almost everybody in the organisation new each other. I was just very young. I was coached, I was mentored, and I was given a lot of in the beginning, in the early days, I was given a lot of creative freedom. I was still given time and room to mature as a designer. So I wasn't immediately put under

a great deal of pressure. It amazed me in the early years that I could go to work and I could do the kinds of things I did. At the end of a month they actually paid me for doing it 'cause I was loving it so much. I was awestruck that somebody actually wanted to pay me for doing what I was doing. In that respect I'd learned very rapidly, I learned in a very easy and relaxed environment. And, working within teams. Right from the beginning I found myself part of a team structure of course. I thought I was given appropriate responsibilities at different stages. Every young designer, to a certain extent, is somewhat egotistic. They are still looking for the opportunity to show how good they are and they are looking for something for MY project to show to allow themselves to shine a little bit. And I was given those opportunities as well but I found I worked better with other people I worked better in teams and that actually became part of me. I think one of the first ingredients of my success was the point the point where I stopped, very early on believing in myself and started believing in working with other people. I just developed a habit of getting on very well with my fellow colleagues, with other designers, designers from other disciplines, graphic designers, communication designers ...

Interviewer: Your specialty is Design for Industry?

Interviewee: Yes, that's my education.

Interviewer: Did you continue in that spirit?

Interviewee: I moved very rapidly. I still refer to myself, even to this day, as product designer, or as a designer. But... within Philips we had numerous different groups responsible for different product areas; different business areas within Philips. I've always worked within the consumer electronics domain. But then, back in the 1980s Philips was also venturing into computer technologies and being very new and very fresh and so forth, I got involved in these types of projects. I got involved in a lot of conceptual projects of workshops exploring technology and trying to find useful applications for technologies. I remember being involved in workshops when Philips were... The breakthrough in Philips were that they could create 4in colour LCD screen and they were looking at ways of applying it in various

types of products. And one of the things I always felt very proud of was a sketch I made of a product which was combination of a display, portable TV, had a portable VHS recording device in there and I stuck a camera on the side of it as well, and turned it into kind of multipurpose type of device and as soon as I put the camera on the side of it I decided, I had this inspiration that if you twist the camera you can actually reverse it and actually see the image that was in the camera in the screen. And years later, for a very short period in their history Sharp actually dominated a camcorder business with a product that looked very similar to what we were doing there. So the amazing thing was we were involved in all these kinds of workshops where lots of ideas were ultimately filed away unfortunately sometimes never used, but there was a part of it, which was good.

Interviewer: So have you been involved in managerial roles as well?

Interviewee: I moved into management quite quickly. At least at a design level I was a group manager by the late 80's. So there was a group of us and I was the most senior within that group, and the title was group leader. I eventually became group manager but I never thought about it as being serious management. At that time there was no specific management training. It was just naturally a position that fell into, it was more creative lead rather than anything else. And a lot of this was due to the fact that people saw my teamworking capabilities that I valued working with other people alongside me very much...

Interviewer: Was that unusual for a designer, or rather common?

Interviewee: There are different streams within Philips Design. I've seen the company evolved quite a bit throughout the years. All of our managers, even today come from design background, and it really wasn't apparent at such a young age, that management was a different discipline. at that stage I was a career designer. It only became apparent later on that Philips were offering two different tracks, that there really was a track for designers to continue develop creatively as designers, along the routes of becoming what we refer to as 'design consultant' a 'senior consultant' a 'creative consultant'. But there is that kind of wall, which eventually

places you on top of the chain being so called... You could refer to it as being a 'design master, a 'design guru', an 'art director' whatever you want to call it. And there's a parallel route, which then starts to involve increasing aspects of management. At a very basic level, everybody within Philips now is involved in training which is related to self management, so simply the ability for individuals to manage themselves; to manage their workload, to manage their priorities, to make decisions, to enable them to be disciplined, to enable them to be disciplined, and enable them to work effectively and efficiently. But then the people aspect of management only becomes an issue when somebody is designated having a responsibility towards a group of people. Then you start taking on wider issues of management, which is particularly people related and ultimately responsible for operational management, financial management, strategic management...

Interviewer: So you've gone for the second option..?

Interviewee: I took that route. It wasn't really a conscious decision at the time. I suddenly found myself with the opportunity to... found myself in the late 80's working quite extensively for Philips in Asia. I was being sent out of Europe on various projects and I again thought that it was great, I was travelling the world, spending time in Japan and Hong Kong, and last but not least in Taiwan. And then, all of a sudden, a question came. Philips Design wanted to establish themselves with the design office in Taiwan. They needed somebody within the organisation who understood something about Taiwan worked in Taiwan, and who understood enough about Philips Design to be able to take on that role. And that's why I was asked to move to Asia. I was asked to take on that role. So I was sent to Taiwan with the title of Branch Manager, where I was given a wall of responsibility with guidance and support from Europe for setting up our design offices in Taiwan. Ultimately, I was responsible for setting up the entire infrastructure, for recruiting the staff; for training them, coaching them, for managing the business, for acquiring the design activity itself, for dealing with the clients for handling, the design component of the design management; as well as account management, the creative part, as well as the client side of the operation. I was responsible... They suddenly put a budget template in front of me, and I'd never even seen Microsoft Excel until that particular

moment in time. Suddenly had to start filling in numbers. I looked at them and said – my brother is an accountant not me, but it became something that I had to start to deal as well. A lot of changes were taking place in Philips Design. We were up until 1996 still a corporate design group within Philips. Corporate meant that we were corporately funded. It meant that there was a budget set aside on an annual basis that supported Philips Design. In 1996, the company, the entire company, was reorganised in such a way that the key word became ‘operational responsibility’. Every business within Philips had to become disentangled and become responsible for running their own operation in a business-like fashion. And that meant that Philips Design had to run on annual budget and had to acquire budget agreements with its clients upfront. It had to make financial transactions on a project basis on work that it did and was ultimately accountable for a financial bottom line...

Interviewer: It still primarily worked for Philips and not external companies...

Interviewee: Again, changes within the company. In 1996 we were working still exclusively for Philips, so their main objective at that stage was to become a self sustaining operational business unit within the Philips Group of Companies. Transition was made very quickly and very shortly afterwards. Our charter with the Philips Board was changed in such a way that we were also entitled to deliver design services to 3rd party companies, and no longer exclusively to Philips; under certain terms and conditions of course.

Interviewer: So what is the percentage of the budget or the contracts ...?

Interviewee: It varies from one location to another. I’m not even sure globally, what the percentage is... we’ve always stated that our ambitions would never be to exceed 50%. Today I don’t think you can quote me on this to be honest but it would be, globally it approximately would be 20% of income of Philips Design, at this moment that comes from third party sources. We still have ambitions to grow that somewhat. We’re quite often impaired by the fact that we do have a lot of conditions we have to apply when working with third party companies. We still are an in-house design company. We are not entitled to design products in what we refer, conflicting

areas. Just so happens, with the scale of the company we work with them there are more conflicting areas than non-conflicting areas. It makes doing business extremely difficult. It also creates a lot of challenges in terms of communications, and it terms of building the awareness. It's not very easy convincing a furniture manufacturer that we can design office chairs for them when we have the portfolio, a fantastic portfolio of consumer electronics for example. And particularly when we come along with the brand name of Philips Design as well. We have debated year after year about changing the name but so long as we remain a part of the Philips Group of Companies then we decided not to change the name, and therefore the brand name itself, we are Philips Design. Makes it very confusing to a lot of third party clients. It's a different discussion ...

Interviewer: Yes, and what's your job right now?

Interviewee: My job right now, my official title is Design Director. I left Taiwan four years ago. Have been in Singapore for the past 4 years. I was in Taiwan for 8 years, I've been in Asia for 12 years in total. I have two areas of responsibility in Singapore – one is third party market development, the business development. So I am a marketing and sales account director. I have to do like work and actually go there and convince these clients that they should work with us. That involves the process of building the awareness, identifying the potential clients, making the initial presentations, seeking out the opportunities, building networks where opportunities arise, putting proposals to the client, developing the contractual relationship, agreeing the contracts, getting the project up and running, and which stage I hand it over to a project manager. I'm the suit; I'm the guy that goes in during major milestones, during the project to hold the hand of the client to reassure them that we're still meeting our end of the bargain, and so forth... but I'm not responsible... I'll look in on the operational part of the design project but there's now a project manager that's taking care of the daily operational, day-to-day design activity. On the other hand, I've increasingly become involved in design research, largely through the networks and contacts I'd build up with Singapore government and over here. And that means, as we have defined our research programme under xxxxxxxxxx, I will report directly to xxxxxxxxxxxxxx. Jointly we define our research territory, the various

themes we wish to conduct research in. I hold the responsibility for one of those teams, which is what we refer to as physical design. This is what brings me back to Northumbria. I should be coming in November. It's part of the discussion we've been having with xxxxxxxx and carrying out this transitional phase because as of next year, I take on this responsibility in the official capacity ...

Interviewer: Are you moving to Europe?

Interviewee: I am moving to Europe after 12 years in Asia...

Interviewer: I gather that you are now quite comfortable in this managerial role you've been for some time. Do you recall yourself being 'just' a designer? If you could perhaps outline the differences between you working as a designer, purely in design and now working as a manager; what are the things that you were perhaps slightly uncomfortable in the beginning, things that you'd usually do in a different way...?

Interviewee: One quality... one thing that perhaps led me onto this, was just simply the ability to build good relationships with other people. When I first set out as to the designer, when I had a certain amount of seniority, and I had a certain responsibility I didn't treat my clients any differently to now I treated my fellow colleague designers, perhaps I was very naive at that stage but I instantly got on very well with my clients and my only concern at that time was to show them how good we were at design and to help them deliver good products to the market. At that stage, I didn't think that business was anything different. Business for me at the very early stage was just simply delivering good, solid design work. What I have experienced, looking at other junior colleagues, is that there are some designers that shy away from clients who can't even talk to a client, who are purely interested in the world of design, and see nothing beyond that; and don't see design in the wider context, and don't understand the competitive environment, don't understand, potentially the reasons why we're designing. The only thing they have is sheer creativity. Sometimes they are very good at that. They just love to design something, but they need to be given very clear instructions, very clear coaching as to what

they're expected to do. But they can't conduct themselves in front of a client in the first place. As soon as the clients may have a comment and a question regarding one aspect of the design then they are immediately on the defensive. They are immediately trying to understand why this person doesn't like their design. They feel offended by it or whatever. I was never in that way inclined. I was always extremely easy going and some people, perhaps one of the criticisms I'd received at an early stage was that I was often considered to be too easy going. I was often considered perhaps to be compromising my design too quickly for the sake of my client. But what satisfied me, as a designer was that stuff I was designing was getting made, and the stuff I was designing was selling. So... I started looking at my junior colleagues and those I was working with in my own team would try to share that view with them and try to explain to them – it's just a job, get it done, make a decision, stick with that decision, convince the client and let's move on to the next stage and let's just keep things rolling. So I was very ... in days when I was just an operational designer, I was very hands on, and I was very impulsive about just one thing to keep things moving as quickly as possible and given up a long time ago about creating the ... the perfect design project. I could take the blows. I knew that when I was able to make judgements when I had to compromise, when I had to give in, and when I had a point of view about something which I was prepared to stick my neck out and defend it and push for it. And I always had this feeling, well, you know, if the clients is satisfied is what we've done, then I can always convince the client that the next time we'll do it even better for them.

Interviewer: You haven't really worked in an non-design environment?

Interviewee: It's always been in design...

Interviewer: You are not familiar with an environment without elements of design? Have you come across people, situations or organisations that are not really in the same mindset...?

Interviewee: About my clients, the interesting thing about working in Philips is that within Philips Design we have a relatively low turnover of staff. Most of our

people are very loyal and certainly enjoy working with the company. Even when they work within one product area – let's say one designer works on one generation of products and then on the next generation of product, and then the next generation of products, and then potentially the next generation of product. So, throughout the process the designer acquires a lot of deep, intimate knowledge about the particular product area, and of course our career ambitions within Philips Design are Designers for Designers. The only aspiration they have is to grow within this organisation. What we see within our business counterparts, within the Philips Group of Companies, is that managers tend to be more career minded, they tend to look at a particular job a position that they're in. They see it short-term. They see they're looking for a quick win; they are looking to impress somebody to impress somebody so that they can climb the ladder. They're looking to transfer from one position to another. Still, within the company, but maybe from one product division to a completely different product division. And sometimes they'll stay with one particular product area for no longer than a year or so. So they are always continually changing, and, on many, many occasions the designers have more knowledge, more intimacy with the product area than the product managers themselves do. Time and time again, I've heard ourselves repeating, educating them, explaining to them – we've been through that process, we've tried that, we've tested that. We know all about this. Sometimes we have to bring our backlog of knowledge into... People who are our clients, our customers who, in many cases, are more educated than we are, know less about product development. They know less about a particular product area than we do. The strength of designers, particularly within the company such as Philips, I think is the knowledge that they acquire in a particular field of expertise, in a particular product area, and within a given discipline. If you are a product manager within Philips then you can be responsible for light bulbs this year and move on to be responsible for designing of DVD players the following year. And, of course, everything you know about light bulbs doesn't apply to DVD recorders. It's true in Philips Design as well. We work across this huge portfolio of products. We maybe designing lighting in one group and designing DVD players in another group, but the designers remain a more consistent element. They don't move as frequently.

Interviewer: Apart from the fact that the managers that you deal with within Philips or outside are a bit less informed about the product because of their career paths, are there any other things that strike you about them, what sort of relationships they develop with designers?

Interviewee: We have an eternal struggle within the organisation which is focussed, unfortunately, on cost. It's not a bad thing, it exists within any organisation of course, but it can be disruptive within the company. There are always ensuing battles regarding the amount of time and the costs involved in designing products, and we're constantly being pushed to design more effectively. We don't have problems with that. We like the challenge of designing more effectively on a continual basis. That is something we've learned over the years, but occasionally a client would take on cost cutting exercises, which would involve them engaging in an exercise by which they will try to engage external design companies. They will find another design company somewhere else that can actually deliver services cheaper than Philips Design. We are looked upon as being more expensive. The reality often is that so many mistakes are made in the process... lack of quality, lack of good briefing, lack of knowledge regarding the products requires so much in terms of re-working of design that on few occasions when projects do go astray. The results are never quite the standard that the company would demand. And the infuriating thing really is that when product manager proclaims that Philips Design is expensive then it says Philips on his business card. Philips says on my business card and we work for the same company. We are a cost within a company and unless I'm made redundant tomorrow then if I'm sitting here with something to do I'm sitting here with nothing to do I'm still drawing my salary at the end of the month. And because we are working for the same company my salary cannot be any higher than his salary. My costs cannot be any higher than his costs because we're working with the same company. Therefore, there is lack of transparency. It seems one way – 'you guys' are expensive, they never look at themselves and ask themselves how expensive they are. We make it explicit as service delivering organisation. We make them aware that we have hourly tariffs. We actually... we're forced into declaring what these hourly tariffs are. You want a designer for one hour – this is how much it'll cost you. Our clients never conduct these exercise themselves, they are not aware

how much they cost per hour, but my challenge has always been that if they want... if they used the same calculation processes we do they would discover they cost equally the same amount of money per hour. If not more...

Interviewer: You mentioned that you were responsible for recruiting people to Philips Design, when you were doing that, what kind of qualities you were looking for? Basically, what are the exceptional designers working at Philips, what words would you use to describe them?

Interviewee: That's a good question. It's relatively simple. Myself and many others we've been doing this for quite a long time. It almost becomes second nature. The standard tool of a designer looking for a new job is his portfolio and these days quite a lot of resumes letters of introduction are sent via e-mail with a reference to an on-line portfolio. To me, that's only the first stepping stone into the job recruitment process. Most times, if a resume is sent together with a portfolio, then nothing more than a casual glance is made at that portfolio. It's really a question... We've learned through experience looking at what designers typically put in the portfolio, which is often nice, glossies of finished products, we can make some quick assumptions regarding their capabilities, purely their creative capabilities, their aesthetic capabilities and so forth. What we... What's often missing, and the biggest challenge is that designers tend not to explain the process; they tend not to show the work that they have undertaken to develop a particular design. They'll show you the finished result and wish you to judge it based on the merit of the finished product but they won't show you the, they don't show you the ... process of how they got there. That becomes the key question really – the major challenge we have and whenever anybody reaches an interview stage, what we're looking to do at that stage is uncover their creative process. We want to know how their mind works. We want to see what kind of tools, methodologies and processes they have in store; how they think, how they develop their ideas. We're not so focussed on the end result. In some cases we've encountered extremely good, creative designers whose results are somewhat more mediocre; then others, who come in here very much as primadonnas. They have fantastic results, but then when we quiz them about how they got there, and we try to understand them as individuals, then sometimes they can be very bizarre

individuals. So a lot questioning then goes on about well, do they really fit into the team, would this person be the appropriate type of character, would this person be, how they will behave with other members of an organisation. Occasionally, the primadonnas come in expecting what we can do for them as opposed to what they can do for us. It's not that way round here... (laughs) trying to find out ok, so what are your assets? What is it that you can, that you believe you're good at that would prove yourself valuable to our company. We're looking at people... we're trying to judge a character, we're trying to judge, skills and capabilities, and if they have one of those then it's really based on the assessment of the individual.

Interviewer: So what are values that you are looking for and what are these characters? What are the things that make them fit in into Philips?

Interviewee: We are looking for ... aa... beyond the creativity. We are looking for people that are capable of taking Ideas and developing them. We are looking for people with good communicative skills, those that are capable of articulating design, articulating their thinking, therefore engaging in a discussion out of which we can help to understand and therefore pass that onto our clients as well. So it's important to be able to explain what you're doing and why you're doing it. We're looking for people with, their own...who show intuition, who show initiative, people that we believe can not only work within teams but can also show the capabilities of taking actions on their own, and not just looking for constant supervision and direction. So people that really have a sense of what they are trying to achieve and can communicate and articulate that. Aspects of self management – are they self-disciplined, are they capable of understanding that they need to work within given constraints, and that a business environment imposes so many different constraints, not just time constraints. There could be constraints on the design itself, in terms of the execution of the design itself, the quality of the materials or components used or many other aspects. ...

Interviewer: In that sense, what do you think is the biggest contribution designers make in the team in Philips?

Interviewee: Biggest contribution within Philips... aa... We work on many different levels. Our core is creative energy. The skill within Philips Design – being an art director – is having enough individuals within the organisation that can steer that creativity and apply it appropriately; that can give enough freedom to our most creative designers to go wild, to be inspired, to believe that every idea is a valuable idea, but then having people within the organisation that can sieve through that and make sense out of that all raw energy and can quickly guide the design groups the design teams to make responsible decisions on behalf of the client. It is the ability to, on one hand, explore and be open-minded and to take on board a wide array of knowledge and information at the beginning of the design process. Quite often, a lot of intangible... the beginning of the design process is really about dealing with an enormous amount of intangibles. So it's more about developing understanding, observing, acquiring new knowledge and then the analytical process, applying creativity to it, and being able to make rational judgement about those, the various concepts, the various ideas and quickly steer them into the process of product creation. The ability to rapidly go from very broad, very kind of subjective...to turn a subjective project into something that is rational and tangible, something that is discussable and debatable with our clients.

Interviewer: So this is how you would describe the process in Philips to be rather tangible and discussable?

Interviewee: We're putting a lot of energy and effort into trying to take a lot of the subjectivity out of the process of design – to make it something which is discussable and debatable. Because we can talk about design and we can be very fluffy about it within a design group, but when we're discussing it with the client we need to be able to...share those opinions with them. We need to be able to listen to them, we need to be able to learn from them and we need to be able to know how to guide them, how to help them make appropriate decisions. We need to make design discussable within the company. That is one of the strengths within Philips Design, I think.

Interviewer: If you could quickly, I know it's a huge thing, describe the process employed in Philips Design from when you begin your project to...

Interviewee: (laughing) it is big...

Interviewer: I know it's a big thing but if you could just try to sketch it out for me...

Interviewee: Unfortunately it takes many years to learn it in-house. There is a straightforward operational design cycle, a design calendar if you wish. It's aligned with another process within our business counterpart, which is referred to as the Product Creation Process. So the operational design cycle starts by taking inputs at the beginning of a year; at one point in the calendar year, taking fresh inputs, and aligning those with intended product roadmaps. It starts very broadly in defining communication, the intended messages we intend to... communicate with a particular product range or product identity. It starts by trying to extract from a lot of the inputs key words regarding the intensions of the product and how we want to differentiate it and now it's going to compete and what the essence of the next generation of products to be is all about. We try to, out of that verbalisation, translate it into a visual articulation through development of visual moodboards we are looking for qualities in materials and looking at developments in technology – so knowing what is available in order to help us to develop the following range of design propositions. It then goes into conceptual workshops. All of these then lay the foundations for product identity. So designers are at the broadest end of the scale, looking at the entire range of the products at a particular category. Let's say at a range of high-end televisions. And they are putting forward proposals for how that range of products may be tied together through various forms of execution, various types of form language, various uses of materials, through various uses of design elements of details or whatever else. And that's rapidly developed through the traditional process of drawing sketching, CAD model development into quick simulations for discussion with...the articulation with clients. We actually reach a point mid year at which preliminary CAD modes, purely as renderings are picked up on what we refer to as 'world tour'. It involves designers together with product managers and marketing managers visiting a number of key dealers, i.e. distributors – the Wall Marts Tesco, Dixons, high street electronic retailers and the likes and over

the years we've built a strong relationship with the distribution channels with the dealers, in which they are given a preliminary look, a peek into the intended product portfolio of Philips 12 months down the line and they are asked to give input. So we're not taking it to the end consumers, but we are taking it to the distributors and we are asking them for... to help us conduct market research to give us input into the articulation of the product. We're doing this in a sense almost in a way to pre-prepare them for what they are going to sell. We are looking for what the issues are that they have in being able to sell the products in the first place. So it's a round of validation. It's taken into further loops of design development of refinement, again, products are actually made as mock-ups and once again taken for a second visit to a lot of the key dealers, around the globe; UK, Europe and Asia. It is quite a major investment and based on those final rounds of meetings, business decisions will be made, products will be... some products may be dropped from the product range at that stage, but eventually the final chosen product range has been defined, and we're just moving to a purely executional phase, where design is supporting product development, just an on-going process there of delivering design specification to on-going mechanical development, assisting in whatever problems that might arise in the process. Try to ensure that the design consistency is met and that the quality of the execution is there. As a result of that the products roll off the production line. Within a 12 months cycle. But proceeding all of this there are basic... we have an N+2 and N+3 calendar running concurrently as well. In the N+2 we are actually conducting more conceptual work where the forthcoming product range is not closely defined at that stage. The designers are conducting more explorative type of conceptual studies, products. That will never see the light of day, purely for inspirational purposes. The closest comparison would be to say that we are building our concept cars, concept cars that we don't show in public arenas. The N+3 scenario is really dealing with the... where Steven's design research programme starts to overlap. It's dealing with the an on-going activity to gain a better knowledge and understanding of our consumers. So at the front-end end of the design process we refer to the need to understand people, to understand them as people and not just simply as consumers but understand them as human beings, understand them as individuals rather than understand them as market segments. And it's out of that on-going research that we hope to gain deeper insights into people's needs; into their

motivations, into their aspirations, into insights that we can later on, look into visually, emotionally, functionally or whatever.

Interviewer: It's purposefully separate from the main process that deals with concrete products that go into production, basically it feeds into it at some point? xxxxxxxx and your research contribute to the mainstream regularly, or is it on-going and may never happen in the future?

Interviewee: It's on-going and it is intent on feeding into the process. It's... when it feeds in, however, we refer to it as N+3, then quite often... It still takes time convincing the businesses, even though we've done all of this as preparation work, given the fact that product portfolio at any given moment in time, when we're working on it even right now. Today, for example, then they are facing the fact that these products will be completed, let's say in December, and have to meet various commercial criteria and therefore the N+1 calendar is often subject to enormous degrees of change, based on business circumstances at the given moment. It's not the ideal process; we would like to feel that Philips was capable of gaining a somewhat stronger ground on... Perhaps I should qualify all of this and say I'm talking here about a lot of experiences in consumer electronics. If I were to talk about how we conduct the process within medical systems, it would probably be very different. Medical systems are capable of looking more long-term and setting a course and sticking to it. Consumer electronics, given the fact that it is an unstable market, faces heavy price erosion, heavy competition, and it is subject to every fluctuation in the economy.

Interviewer: Would you agree – xxxxxxxx mentioned that the culture at Philips is more process-driven than outcome-driven, would you agree with that? Is there something else to it?

Interviewee: We are very process-driven, the fact that design has been subjected to this very rational process... It's a strength but simultaneously it can be a weakness. The fact that we can articulate it, we can, we are trying to measure it. It's good for business. It's a good way of being able to share with our business counterparts. It

does leave the question hanging, which is you know – what happens to sheer creativity? Why do you have to be so process-driven, why do you have to analyse everything? Why do you have to measure everything? Why can't you just...what happened to gut feeling and intuition?

Interviewer: How do you feel about that? Would you rather have more of that?

Interviewee: I don't know (with slight nostalgia in voice). I think it's a question of striking a balance. I don't have any experience outside of Philips unfortunately which would lead me to say that it could be done in other ways. We've gone from that process. When I joined Philips Design 20 years ago, and then we were... To be honest, 20 years ago Philips Design was prostituting itself. It really was just creativity, but then we were not, we were not involved in the business process. I remember, my insights, I was only a young designer, by my insights 20 year ago was that first money was no object. A briefing came to design, let's say a new range of TV's and what happened was that a team of designers would be assembled. They would be given a very loose, creative brief, told to get on with it. They would be given maybe 3 months. They wouldn't even be told how much time they had to have a go at it. It would be more a question of you know, just turn up the creativity, crank it out, give us as many ideas as you could, designers would sit behind drawing boards in those days and turn out one drawing after the next after the next... And when we had this feeling we kind of exhausted all of our ideas then somebody would say – ok, that's enough. Let's call for a meeting. And we'd call the client up and we were going to this very big conference room and every designer would pin up all of their sketches, all of their drawings. And sometimes, you know, it would be like 20 meters long, this huge wallpaper of ideas on the wall there. Fantastic stuff. The presentation would begin by asking each individual designer to stand up and present their work and, we'd be pitching against one another – Well, my colleague here on the left decided to design a round one, so I decided to design a triangular one, because triangles are better than circles. I decided to make it black and my colleague here decided to make it red. And there was no rationale, there was no reason for it, it was just, you know, we were being creative. And it was kind of like that. It was left open ended and at the end of the meeting we were thanked for our contribution and some

big guys would light up their cigars and stroll up and down this corridor looking at all of these pictures, and they would take post-it notes and vote for which was their favourite at the end of the day. We were just told – the results are in, they've chosen numbers 1,3 and 6. And so we said – ok, that's good, and we've just gone on to developing numbers 1,3 and 6. We never asked why, we never thought why, we never intervened in the process. We were never at the same level. We were just prostitutes. That's the difference. That's when you can ... I'd never advocate for going back to that system again. Today design is far more process driven, we are at an equal level we have a great deal of authority to say regarding the products that we are designing...(pause) But ...it depends on the complexity of the company. The comparison... often the question often left here in the company is for example, 'how do they do it in Apple?' We don't know, we can ask Jonathan Ive but I don't think he will tell us exactly. Truth is, Jonathan Ive doesn't have to manage a portfolio of products, any way near as complicated as Philips does. Yes, his company has a very strong sense of direction. They have a very strong sense of their design identity. They have a very strong sense of their product identity. They have wonderful creativity, at the same time it's extremely well challenged, well channelled. They obviously focus a lot of their energy and effort on getting the design right. It does seem somewhat, from our point of view, it looks as though their design direction is more inspired, it's more liberal, more creative and I think they make hard decisions as well but you know, the kind of decisions we have to make when dealing with the product portfolio which is a 100x bigger than their portfolio is much more complex.

Interviewer: In one of the interviews, it was either xxxxxxxx or xxxxxxxx mentioned that you take IDEO as your benchmark. Do you agree with that? IDEO is a design consultancy with quite a broad portfolio of products...

Interviewee: We like to think so. The reasons why we think so is because IDEO has reputation for innovation. And the fact that they believe design can be applied as a process to many areas, that no project big or small is too difficult for them and that's ... they are a true strategic consultancy. They utilise design as strategic tool and not a just purely as a creative tool.

Interviewer: Do you look up to it?

Interviewee: It's certainly something what we look up to in IDEO. It's how we would like to be. It's how we are. We have equally as many processes and tools and methodologies as they do. Perhaps... I don't think we have it as finely honed as they do. We admire them also because of the fact that they are multi-disciplinary, which we are, which we would like to be more of. The aspect that IDEO has that tops design is the fact that they do have such a huge diverse client base. Whereas we really feel, nobody can design, given our product range... I don't think that anybody can compete with us. We would challenge IDEO to design a range of consumer electronics products, or a range of medical equipment products any day. And we would be confident that we could beat them hands down. But they certainly have a one up on us in terms of the vast knowledge and experience they have in such a huge product, such a huge diverse product areas. We would believe, we would like to believe that we were capable of doing that... but... you need to build experience in doing that. It's one thing to say it, another thing to do it...

Interviewer: Still, designers and people in companies look up to Philips, what do you think are the winning ingredients that you have?

Interviewee: The winning ingredients of Philips?

Interviewer: Yeah...

Interviewee: errrr.... ...(pause, long pause) I think it is our process, it is our research capability, it is our visionary capability, it is a lot of our creative competency, it is the deep knowledge and intimacy that we have of our product area and our on-going programme of research into understanding people. One of the strengths is that there are very few other corporate design companies – the in-house design companies – that actually have the ability to reinvest in their own future, to develop their own internal capabilities through the programme of design research that we have. I think a lot of those are the attractive qualities of Philips Design –

fantastic product range, a lot of diversity, multinational, multicultural company, heavily focused on research, heavily focused on ... a healthy focus on process. I should say... I'd like to think its... yeah. Process should only be there to facilitate, shouldn't be there to hinder. I know it can occasionally, it's just a question of balance right. And I think in most cases we're striving to get it right. A healthy balance of process.

Interviewer: And, on the personal level, what do you particularly find stimulating in design and designers? And what are the things that irritate you perhaps?

Interviewee: The thing I love about designers more than anything else is that the belief that we can always do better, the belief that we can make a difference, we can make a change. They are ready... There's this kind of built-in mechanism among designers to accept any form of challenge and say – yes, that sounds interesting... and to actually get fun out of a challenge; to accept anything and say – yes sir, that sounds good... let's have a go at doing that. The problem with business leaders is far too often I find them not to have vision, no to be inspired and not to be risk-takers in that sense. And I guess business in Asia, can be entrepreneurial yes, but I find it difficult describing the Asian entrepreneur. It's not really an inspired entrepreneur, it's really just a gambler. It is really somebody who more than anything knows where they're going to make a quick buck rather than anything else. It's not a true... it's not really somebody that you'd look up to as being an inspired leader and say – wow! This guy is worth following to the ends of the earth, I don't care what he's doing but whatever he's doing it's great. Not enough of them around, unfortunately. Designers are people who are prepared to give that kind of commitment if they are given the right kind of leadership, they are given the right people to look up to, they are like obedient puppies. They'll stay with you and be obedient and loyal for the rest of their lives, and they'll give you everything they've got. Those are the qualities I love about designers. They really accept challenges and nothing is too big or too small.

Interviewer: What are the things that irritate you about them, if there are such things?

Interviewee: What are the things that irritate me about designers? (loud laugh..hihihihih) aamm... fluffiness (hihihihihih)..

Interviewer: What do you mean?

Interviewee: When they are just primadonnas or can't explain why they're doing or what they are doing, who for whatever reason.., yes they maybe talented, they may have some skills and capabilities but they really don't belong in the design world, because artistic they may be, but they really don't know how to communicate with others. And if they are not capable or working and communicating with others then I find them a challenge to work with of course.

Interviewer: Did you think in the same way 20 years ago, or has that changed?

Interviewee: I guess I had the inkling then, but I wouldn't have known it. I would have said, maybe I would have know that kind of implicitly at that stage but would have never been able to make it explicit. Would have never been able to explain at that stage.

Interviewer: Is it the same thing, I've got a question here – what is the biggest mistake a designer can make in Philips?

Interviewee: To fail through lack of communication, through lack of team work, through isolation. We've had a few, and they never lasted the course. They've always gone on... proven time and time again, if you are not part of the bigger team then sooner or later you'll move one somewhere else. It's kind of natural extinction.

Interviewer: And in terms of listening to the client, what is the biggest mistake?

Interviewee: Well, I mean... not everybody is going to be a fantastic design manager, not everybody is going to follow that route. There's a lot of people capable of becoming very strong, capable, professional designers without having to become design managers. Listening to your client, being able to talk with your client, feeling

relaxed and being able communicate is important... It's not always... We don't always expect every designer to grow to the point where they are going to become a design director or art director or design manager. Some of them are kind of happy in the middle, or just being on a safe ground. They just like to be creative and be given good instructions. They are capable of working and they are capable of delivering. They will interface with the client to a certain extent but not at a strategic level. So they are just renowned for just getting the job done, and they are very happy and very content with what they do. And then, a biggest mistake we can make is sometimes to encourage them to become design managers or trying to push them up the creative ladder, where they are not capable of directing other people. They are just good, strong individuals, steady, reliable they're not into leading teams. They are very happy and content with being a part of a team, being the key figure within that team. Other challenge is just trying to suit everybody's different aspirations and being weary of the fact that occasionally you can push people into the wrong direction. In that respect it has to be... It's not just an upwards ladder there can be a downwards ladder or sideward ladder as well. You have to be able to... The individual has to be able to voice it up. They have to be a part of that. They need to make that decision for themselves. Sometimes they will find that it was a wrong move, they need to be given the opportunity to say – it's not for me, I don't want to become a design manager. I've decided that I do want to become an art director or I'm happy being what I was before. I want to acquire some new knowledge, some more experience before I move further. So... that really then becomes people management. It's really just listening to others and learning... helping to identify one another strengths and weaknesses; knowing how to coach people and getting the best out of them, providing them with good leadership.

Interviewer: And whilst doing that, in your career, was there a situation when you had to intervene in amongst designers in one way or another?

Interviewee: ...Yes..

Interviewer: And what was it? What were the circumstances of this intervention?

Interviewee: I've had the opposite actually. I've had a couple of instances of individuals who've been a little bit overly enthusiastic, whereby, ok, at certain stages they were actually undermining my own authority and saying things and committing to things and agreeing to things in front of... or even saying things in front of my client that had not been pre-discussed and that I was not happy with what they were agreeing and so forth. A lot of that was just simply a raw enthusiasm and so forth, which was forgiven afterwards, but forgiven after a sort of stern warning of you know – you need to understand your place and I need you to respect that ... you can't just make agreements and commitment to our clients... and whatever you're doing don't do it whilst I'm sitting there at the same time (smile) ...

Interviewer: So you had to calm them down a bit?

Interviewee: Calm them down occasionally, yeah. Just real them a little bit. Because it was done of a sheer enthusiasm. I often tried to encourage them, bring them down a notch but at the same time make them feel as though their enthusiasm doesn't go unappreciated.

Interviewer: That's brilliant... thank you.. I've got here in front of me a list of categories which have been emerging from previous interviews; I want you just to listen to these and maybe comment on some of them if you feel that you know that rings a bell.

Interviewee: ...aha...

Interviewer: For example, the first one is trailblazing, colonising vs. consolidating – basically I've found out that designers tend to be more trailblazers than colonisers, and many of them expressed this view they'd much rather brake new ground rather than consolidate... how do you feel about that?

Interviewee: Trailblazing... well, pioneers, groundbreakers, yes, through exploration, through vision through insights, through research, they tend to believe that, we are the forerunners, we are... the advantage of design is that we are

quickly... we are capable of being able to quickly visualise the future on behalf of our clients to put one of the... even xxxxxxxx says – one of the responsibilities of designers is to be ... is to create ... challenging propositions. If we were not challenging, if we were not provoking our clients, I don't think we'd be doing a good job.

Interviewer: The thing, which I have underneath are – prepositional format, solution-drive, and breaking rules ...

Interviewee: Yeah...

Interviewer: You agree with that... it's to the preference, it's not in the quality or the abilities it's the preference to actually be at the forefront of activity...

Interviewer: Next one is connecting with the audience and with self.

Interviewee: Yes...

Interviewer: And things like commercial empathy, I call it commercial empathy...

Interviewee: Yeah, that's a good way of putting it... awareness ..

Interviewer: Concentrating on people... so universal appeal vs. singular appeal, transparency and self-reflection and self-awareness as a way of seeing the world around you...

Interviewee: Holistic thinking, seeing the broader picture, seeing the big picture is and important quality...

Interviewer: Another one is a major one – it's consolidating meaning, it's a way of life for designers, so it seems, bridging approaches – trying to put together very often very conflicting views and, synthesis – analysis kind of swing, and seeing holistically and using multiple languages.

Interviewee: uummmhhh... yah...very true

Interviewer: Creating and bringing to life is another area...

Interviewee: yeah.. I think that's ...

Interviewer: Physical and virtual realm, artifacts and experiences, again a few of the designers I'd interviewed expressed the importance of this expression 'bringing to life' as something that make them tick...

Interviewee: Yeah... The ability to bring things to life very rapidly is one of the skills... Picture is worth a 1000 words and simply quite often the visual capabilities of designers, the fact that we can express something visually very quickly is the ability to bring something to life very quickly ...

Interviewer: There's another big section which is called – embracing visual – as a visual discourse, visual thinking, creative manifesting and visualisation as the sub-categories to it

Interviewee: Yeah...

Interviewer: And the last one is embracing discontinuity...

Interviewee: (laugh)

Interviewer: I'd noticed that designers are quite comfortable with it... the discontinuous thoughts and the rest... I'm revising it, I initially had 'jumpy process' but I don't see it as a jumpy process anymore. It's more jumpiness of thoughts...

Interviewee: Embracing complexity, embracing blur, the fact that.. embracing change it's not something... I mean, you read text books on business management for example, you read Tom Peters and he tells you that business is constantly

changing, this is the new world for design I think the world has always been that way. It's no different. Life is constantly changing. I think the admirable quality about designers is that they are very capable of embracing change. They are actually thrive on it. They actually live on it.

Interviewer: That sounds interesting... and the really last one is understanding beauty and multidimensional aesthetics.

Interviewee: (laughter... mild, warm)...

Interviewer: What do you think about that?

Interviewee: Yeah.. .. it's very much a part of it...a visual language

Interviewer: It's not only about the function, it's also about the beauty of it ..

Interviewee: Correct ... not that we always understand it as well as we should do, but ...

Interviewer: but at least you strive to understand it...

Interviewee: Yes

Interviewer: It's been great talking to you, thank you.

Interviewee: thanks

Appendix F - Interview Sample II

Interview with Senior Consultant (Design Director), Wolff Olins

(full transcript version)

Interviewer: Can you tell me what is your background?

Interviewee: Yeah, sure, Basically my background is in business and I did an MBA, probably 4 years ago now, and went to work for Accenture in financial services and outsourcing for 18 months and absolutely hated it. And I was interested in what makes organisations change apart from just the structural parts of the jigsaw, so organisational structure etc, etc. and so one of my friends was working here and said why don't you come and help us with some stuff we're doing here, specifically with Lufthansa. So I came over and now I've been here for 4 years. I'm a consultant and I work primarily in financial services. I've worked with pretty much all the major banks and also several other companies like Credit Swiss and HSBC, Abbey, lots and lots of them. So primarily what my area has been it's been leading some change projects, but also specifically recently helping companies also to redefine what they actually offer to their customers... So designing products and services as well.

Interviewer: You've worked for the non-design environment, how did you find it?

Interviewee: I think, to be honest, is that element, the creativity element (memo: the managers don't have sufficient vocabulary to express the characteristics of the design environment, they end up overusing word 'creativity') which makes this a very, very different type of company, and I think, in my experience actually it one of the [stressed] reasons why clients choose us, and the fact that we often, in project, are brought in to do the branding part of the project and then tend to almost push out the lead management consultancy on the project because what we can do is actually bring the original thinking to the piece. What you get, what you tend to get from other consultancies is that they benchmark a lot. What you get is, especially if the company is new to the market and wants to do something different and essentially is behind the market, they need to do something different that these

people [management consultants] don't bring them that difference. And I think that WO can. And the design part of it is ABSOLUTELY [emphasis] crucial to helping us do that. So I think what you get more and more is that you'll get the companies that will begin to leave the markets and the people who will be able to innovate and change very, very quickly and offer different kinds of values to their customers. And design, or however you call it, creativity, or business creativity is the key to doing that.

Interviewer: How would you describe it?

Interviewee: Describe what: creativity, business creativity – it's just original thinking... it's more... Everyone used to talk about big ideas, probably a year or two years ago, and I think it's gone past that point because it's no longer good enough to actually have an idea or make a promise to your customer. You actually have to deliver it. So what you'll get more and more is actually design and creativity helping us to actually do real (emphasis) things in the markets. So let's say for example staff that I do. I help to create real services for customers so work with people on the business side so actually rewarding people otherwise, the experience never comes together it's never tuned to the customer really. And I notice in your e-mail IDEO, and you get there the similar, I mean they are probably more design-led; we are probably more business-led. But companies come to them partially because they are able to do things very, very differently. And I think that is similar in WO, and probably WO is still the most creative all-round consultancy out there. If you compare us to xxxxxxxx they tend to have a set of processes and what you tend to get, which is I think very different and it's interesting you'll get the 'balds' or whatever, the smart people to think and do the first bit of work and then they will hand it over to the 'crazy' people with their jeans and t-shirts, and then the outcome is something which is completely crap. It wasn't what the client actually asked for. What we tend to do here is actually one team which involves a consultant, a crazy boy designer and a project manager and you get a very different dynamic about it essentially. Because what you get is actually designers bring the cut-through. If you had just lots and lots of thinkers thinking in one way, you'd never get that cut-through, that difference. If it's complex on the inside and extremely complex on the

outside, and they try and help you simplify everything and actually give it a bit more traction on the market. And, in that respect, I think designers are... WO wouldn't be anything without designers...

Interviewer: Why is this way? Could you elaborate on this?

Interviewee: I've got to say, I think the relationship... I think it's that combination of skills, that makes the result very, very different. This sort of thing – right brain, left brain, so you need to have... You need to present... Clients nowadays will not do something just because it's a nice thing or a different thing. There needs to be a business case to say this is why you should do it, and this is how much investment you're going to get. This is a very competitive market, these types of things cost a lot of money. So the consultants can bring that before they can set that original thought in the business case, but you need the designer or the creative to help you do something different...

Interviewer: So the difference between having designers and not having designers would be...

Interviewee: I genuinely think the reason people come here is because is the creativity and the design aspect of it. I think that what we offer is a full business solution but without that original thought I think.... Otherwise they'd go to the management consultants. They'd go to their own people but what we can do is we can begin to bring, not even just business case or whatever, but we can actually begin visualise and bring things to life and actually show them. Ok. we've talked a lot in a PowerPoint why it's great to have these products going to 16m people, but they can't actually feel or see if that would actually work, and what we tend to do with the designers is create scenarios where we have workshops where you can actually go in and you can see the three different types of businesses going to the future and begin to feel and touch them and actually work out – yeah, that actually makes sense, 'cause this is not rocket science. If you think it's something you potentially might be interested in or your friends might be it's normally right for the market...

Interviewer: It's the visual and tactile element...

Interviewee: Yeah, it's bringing... it's two parts to it – one is creating the vision and the difference in the original thought, which I'll talk about in a bit, and the second bit is bringing it to life. So actually it's a real thing, because most branding projects tend to just end up as power point presentations on the CEO's desk and nothing happens to them because they don't... They are not brought to life in lots of different ways and I think that's what makes the difference...

Interviewer: And the relationship that you have with designers... Have you always been comfortable with designers?

Interviewee: Yeah, I'm slightly different 'cause even though I've come from a business background, my whole family are designers. I've always been sort of a black sheep of the family. I get on with the people here very, very well and what I think what you tend to get here is, and you don't in other agencies, you get people who can actually understand both worlds and I think that it touches on what we're actually looking for now. So if you go to pure design they won't understand the commercial reasons behind doing something. People here we tend to hire, people are creative hybrids they can do both jobs. Essentially. So it is much easier for us a team to integrate and do something together essentially, we don't do this just because it's a fun thing to do. It's actually quite a serious issue. I personally get on well and I think all the consultants here... Its' actually sort of... it lifts your day almost, 'cause you live in a client world which is lots and lots of power point slides and research and whatever and you get bogged down and you need to somehow look at it with a fresh pair of eyes and they help you do that. Most of these people haven't been through these business schools and they're not used to...'cause you look at the figures and start extrapolating and these people help you to look at... a fresh set of eyes almost...

Interviewer: How about you, what you find particularly interesting and stimulating in designers?

Interviewee: I think the first thing to say is that I think there's a myth in the industry that... creatives here are extremely bright and you could put pretty much any of them in front of a client or they could in fact do your job (consultant's), I probably don't need to be here which is a scary thing. And they tend to have a vision. They tend to see things not just potentially what they could be in 6 months time but in 5 years. And they tend to look at things almost as, when you're sort of almost 5 year old child and say – why the hell people are doing this – it doesn't make any sense and costs lots of money and can't it be just like this, can it be simple and can't it be much more usable and actually much more enjoyable experience. Yeah, we sort of thought of that... So it's combinations – people who can actually I think.... People who thrive here are the people who can actually see the business case. People who are very bright and who can begin to think of a better way of doing things, so it's not just crayons and jeans and T-shirts, which is what most people outside the industry think what design, especially nowadays is...it is almost the worst you can get... because you get so (emphasis) many people coming out as designers, and 99% of them are absolutely awful – sort of if you're not unemployed you call yourself a graphic designer – sort of thing. You get a very small amount that are actually genuinely good, because of that huge amount its for the general part of marketing and almost tarnishes the rest of the industry. People think – if you are designing you're too stupid almost to do anything else. And it's not that, I think that side of creative society is what businesses are looking for and they don't have internally and want us to help. So they are the most important element (designers).

Interviewer: What are the values, trajectories and attitudes they bring to the picture?

Interviewee: It's four sides – they see things in a very different ways, it's just this sort of David Blain's lateral thinking – out-of-the-box. They generally can cut-through things, they're very direct, they don't bullshit. It's one of the problems with the world with management consultancy is a lot of fluff, is a lot of bullshit or off-the-shelf stuff – you know – over-promising, under-delivering, these people, I mean designers, tend to be just cut through straight to the chase and actually find out what's important in an issue, you know. What is really the problem with this thin?

How can we do things differently, so in terms of the values they might have is direct. Obviously they need to think in a different way. It's not even this traditional crazy in a very different way. And the attitude... I think it's always the general push to do things in a better way – sort of – the more and more you visit the case you get the you can't do this you can't do that and I think the designers begin to help with the attitude to try push things really forward and get things done. I mean... The only reason why I'm staying here is because of that element, 'cause otherwise I'd go to Bain or whatever, but I actually want to see things in a different way. Because I'd learned the other side but I want to, I think to be a true consultant you need the other side as well

Interviewer: If you were to compare the traditional business consultancy and the one that you work for now how would they compare on different levels?

Interviewee: It's quite a difficult task. The thing about WO is its fluidity. You can't pin WO down, so you tend to have... Even on the business side I'd say most other agencies what you have is a structured hierarchy, processes, steps, you don't have that in WO. You tend to have single team, you tend to get fluidity between the walls. WO is very entrepreneurial in terms of... I think it's very much like IDEO in terms of... You can pretty much do what you want, even if you're a lone genius you need to get something going. In other organisations, in other businesses you wouldn't... There's a sealing you can't do certain things, you're boxed in. In terms of the relationship between the designers and management of whatever it is I think, the fact that is one (emphasis) thing instead of three different things it's crucial. That they get involved from the start when we're talking to clients, when we're talking to customers and not at the end which is going pretty pear-shaped because of all the thinking that made this happen. That's not how it genuinely we should do.

Interviewer: So the structure, process, culture...

Interviewee: Yeah, these three things. The culture is very difficult; I've got to say it's a difficult culture to work in...

Interviewer: Why?

Interviewee: Because it's not incredibly supportive in terms of... You need to be able to think on your own do your own thing, be entrepreneurial. You get thrown at the deep end you have to talk to senior people, not much training but people who are confident what they want to, they tend to be more senior they enjoy that aspect of freedom essentially...

Interviewer: Sounds like a place to be...

Interviewee: I wouldn't be here if it wasn't, I'd be bored after probably 4 years, you know what I mean. It's always... there are many reasons why I'm here, its' the clients you get to talk to a lot of best people, and the people here. I think also the fact that the designers are people here from different backgrounds helps – They are not all from the same background, they are not all from advertising. They are film producers, they are writers, they are consultants, and bringing all those different backgrounds together I think gives you a new way of thinking about things.

Interviewer: What are the benefits of working with WO as perceived by your clients?

Interviewee: I think probably nr one it's probably considered to be the most influential brand consultancy. You tend to get clients who actually want to persuade their clients that this project is the right thing to do so they will come and ask WO to think about what it could be, to bring it to life to try and prove their point. This is why I've come to WO so, I'm now able to work with all the big ones and we can open doors. No other agency really can, 'cause we have connections with xxxxxxxxxx. And the thing is we tend to work with the losers in the industry – people who are 3rd 4th on the market and not doing so well and need a big leap. And all our clients are like Orange, Go, First Direct etc. not people like BMW, Roche, BA; companies that need to be moved on in dollops. We tend to get people who are in a real shit essentially and need something big done to them. So I think if you're in that situation there's no point going to other companies. They'd just change your logo,

they'll do a few tweaks here and there, they won't help you make a big jump. I think the 3rd reason they come to us is the creative juice. I think creatively we're still the strongest big (emphasis) brand consultancy. There are lots of interesting other agencies like Naked, and people like this, but they're not that big; I think that the third reason. I think fourthly, we actually understand business as well. So when can actually work out you know what's going to be the return on investment we can do the numbers as well to back it up, which is really important, so when somebody goes and presents it to the board you have to have reason for doing this.

Interviewer: Coming back to designers, what is the biggest contribution a designer can make to the team whilst working for WO?

Interviewee: They're not seen as strange, isolated people ...(laugh)

Interviewer: ...Try to think about yourself being brought up as a person in management and then them being traditionally brought up in the tradition of crafts..

Interviewee: Yeah..errrr.. what they bring to me of to WO?

Interviewer: To you and WO?

Interviewee: I think it is that originality, it is that leap, 'cause what you tend to get is, it this classically trained consultancies you tend to do stuff what you do is see what they need, sort of fill the gap and these sorts of things that are very slow processes, and design can come in and just say "why don't we just so this?" – So it's completely different way of thinking. That different way if thinking, the originality and the fact that they haven't been brainwashed by all this crap, all this theory (management theory), you know. All these aka books, all these frameworks, all the things I couldn't bare reading when I was doing my MBA. You probably couldn't bare when you had to do your staff, it's the theory side of things, which they help to smash through. Because more and more what you get nowadays is not about the theory is about doing things in real life. It's about actually physically getting things out so things like i-Pod. All these things are about innovation. It is about putting

something in the street and getting people excited by it and that helps to build a brand. It's not about logos, it's not about frameworks, it's not about strategy at the moment...

Interviewer: And the flipside, the biggest mistake they can make the biggest pain with them?

Interviewee: Sometimes it's difficult to convince of the business case. You can't do this because of these reasons. I also think that some designers get quite precious about their work. They find it very difficult to... receive feedback. They tend to almost shut off. They are more insular I think. A good creative may be like a consultant in the fact that would be willing to get feedback. So that's almost been trained into you, but these, they tend to get quite precious and sort of refuse to believe that, even if there might be better ways of doing this essentially. And I think also there's this genuine misconception that, because you're a consultant you can't be creative, which is a lot of crap. I've got ideas... I've got things I want to... I question things and hey, you're not stereo casting into those sorts of things, so yeah I can do power point and they can do pictures but I think this barrier is much more blurred now...

Interviewer: And you say that you actually have people who break this rule?

Interviewee: Yeah, (vigorously) when we're looking for creatives we won't go for somebody who's just a designer, and we won't go for somebody who is just a businessman, we are trying to get... – if you talk to creatives, I don't know if you are...

Interviewer: I have...

Interviewee: Ok, who did you speak with?

Interviewer: xxxxxxxxxxxx..

Interviewee: Yeah... you tend to get people who point to the same types of things as me...

Interviewer: But there is a difference, the way in which you've been trained ...

Interviewee: Yeah... but it's getting more and more blurred the types of people you'll get and now you're getting spin offs like innovation companies with these types of people... Is this types of people that businesses really want now because all the other stuff has been done before. What businesses are trying to do is about growth and you can't grow unless you have new ideas and most businesses how they make money is about cutting costs. And you can only do that so far, at one point you actually have to have a decent idea to do something different, to make money and this is when businesses start getting scared. For example Vodafone continually acquires companies, cuts costs down, makes money. Most of the banks do that as well. ... Bank is buying Abbey and will do the same. You have to be crazy and do things differently otherwise ... that's how I think

Interviewer: I've spoken to a lady who worked for WO, she's now a senior lecturer at HEC in France. She said she misses working for WO. She'd do a lot to get back to WO. Would it be the same thing with you?

Interviewee: It's quite... It's like a bitter sweet experience, there's some things that really annoy me in terms of ... Sometimes its quite frustrating, sometimes it's quite hectic in terms of delivery time but I think that it's definitely the most amazing experience you're going to get in this world of marketing. I think a lot of people go from WO to do their own things, set up a company, become a lecturer or set up a new agency but they don't tend to move to another agency, I don't think they are as good, you don't have so much freedom. So I would not leave here unless I wanted to do something on my own, essentially. I wouldn't move out of here, the experience would be not as exciting, unless you've been through the pain...

Interviewer: So we've basically gone pretty quickly through the questions, I can see you've got some interesting thoughts ...

Interviewee: Yeah, because if something interests you,

Interviewer: I've got here a list of key ideas or concepts and I'd like to test them with you...

Interviewee: Yeah...

Interviewer: The first one is trailblazing, colonising vs. consolidating

Interviewee: Right...

Interviewer: And things like: prepositional format, solution-driven, braking rules – these are the things that are recurring themes in my interviews

Interviewee: I think, to be honest with you ... I'm just going to draw something – this is the general situation we find in businesses ok. We have market where there is no growth, I'll give you an example of Abbey and you know Abbey is in what they call a PFS market, which is Personal Finance Services market. It's a limited growth because no-one can buy each other and most people have bank accounts so you can't do much here, and you can't buy anyone of your competition, so they say what we can do is: cut the costs down, do things more efficiently within certain parameters you play in the same market essentially you're not... business is about growth, ok, and this is the situation where more mature markets... You have other markets which are not so mature and you're going to get that in budget airlines, ... What we are try and help and think of are other ways of doing business... essentially to come up with an idea of doing business which begins to probe this market. So with Abbey we started talking about advice about money. The fact that in this country there's so many people so frustrated by the banking experience, the housing, the pensions, the whole thing no one addresses those things, so can we begin to move into this market. We can still do old stuff... To get here you need: creativity, innovation, or what you are traditionally calling design. I think design is quite an old word. It's quite a traditional word. It is more about this, and nowadays it's not even

good enough to come up with an idea, you need to then show it how it goes into the business. How does that idea translate into products and services? How does that idea translate into the way we communicate? How's that idea translate into the types of people we hire here, and how's that idea translate into the placements we have? To do all of these levels you need creativity, you need to use... Either you need to use the design resources you have in your organisation or get an outside help or without these jumps you will not grow unless you just acquire essentially. So I think that the next, and I'm coming from the business perspective, you know, I don't really believe in all the design say, sort of 'brand will save you', change of logo type, 'changing your colour will save you'. Genuinely, businesses need to think about new ways to grow, and you can't do that without creativity, and without creativity. Without creativity can't get out without design. So it is intricate to the future of businesses and you'll see more and more CEO's say that the brand is the most important thing on their agenda nowadays... Another trend is... is quite interesting is that a company used to do everything, used to manufacture, sell distribute do everything that... You can't do that anymore, 'cause it's too costly. So what businesses try is outsource everything and you see it with call centres, manufacture, everything and all they're left with is marketing essentially, how they market themselves which is brand, design ... And this is the most important thing, it doesn't matter all the other stuff it doesn't matter, - i-Pods it doesn't matter if some company's made them in China, Apple don't do it, that's what they control ...

Interviewer: So it's about trailblazing it's about creating new markets...

Interviewee: Yeah, it's business creativity whatever you call it, trailblazing, braking rules, it's that, you need that to grow unless you're going to acquire ...

Interviewer: The second one is connecting with the audience and with self. I call it commercial empathy, concentrating on people, universal appeal vs. singular appeal, transparency, self-reflection, self-awareness...

Interviewee: Yeah...self-reflection (smile)

Interviewer: As connecting with yourself in the process of developing the solution..

Interviewee: I think that's another crucial thing. Here we talked about the outside of the company, which is needed is certainly on the inside as well as on the outside. Both are equally important, you use innovation, you use brand or design to begin to... What connects the people in the organisation is the vision so it's everyone thinking they are going in the same direction essentially. You can't really do that unless you clearly communicate or articulate that vision so everyone knows what is going on and you need design or brand or whatever you call it in there to actually begin to define what that vision is... So begin to translate it into the culture of the company... so yeah... I agree with that

Interviewer: Next one is consolidating meaning; I found that designers are particularly good at bringing different elements and saying - right - we need this little bit from there, bit from there and then consolidating meaning.. it's about bridging approaches, it's this swing between synthesis and analysis, it's seeing holistically and using multiple languages to express yourself.

Interviewee: Yeah... so fantastic these people (laughs)... but yah.. They are good at distilling things down to what they really mean and whether that's taking bits from different areas or distilling it down I think ...I think the idea is that they don't have to bullshit essentially, they can just go directly to the thing, so I agree with this one...

Interviewer: Creating and bringing to life, I think you've mentioned that....

Interviewee: Yeah, this one is the key attribute...

Interviewer: And the people I've spoken to they emphasise 'life' – bringing it to life ...as a living thing.

Interviewee: Yes, that's one of the many things you have to remember is when you actually for the first time present what this thing could actually look like. For example, with Abbey we have the new stores, the new branches - and they said - "shit, this is amazing!". The first time they see it and starting to get excited by it and actually starting to understand how they can actually do it. 'cause before you do that, before you visualise and bring it to life it's just a whole set of facts and presentations of how do you put that whole thing together. And they can begin to see, and it's more than just bits if you can begin to build this. What we call customer experience, than you can begin to present how you can travel through it...

Interviewer: And that relates to another section which is called - embracing visual. Basically visual discourse; designers use visual discourse to think and they use it manifest something and to create this visualisation so these are the things that they hold dear...

Interviewee: Yeah...

Interviewer: And again it is quite important to the new strategic understanding of where the business would go...

Interviewee: Yeah... exactly, I think it's just the element that businesses don't have, they can't do this ...

Interviewer: the McKinsey's, Accentures?...

Interviewee: ... no, they can't do it 'cause you have those two stages - you are coming up with what you want to be and then bringing it to life. They could come up with where they want to be - the analysis bit, but it's likely not be exciting, and then they certainly can't do the second bit, design helps do both...

Interviewer: Another interesting aspect is - embracing discontinuity - meaning being at ease with this discontinuous thought process, perhaps slight jumpiness... sort of not going from a to be to c....

Interviewee: Yeah...

Interviewer: Doing this sort of jumping around, looking at something else and then coming back taking two steps forward and then back and then leaping forward...

Interviewee: I think that's really important... That's something I initially felt really uncomfortable with because it tends to be quite illogical. If everyone is logical you tend to come up with the same answers but designers help you think illogically almost and jump around and think about things in a completely different way and you get a different result. What you tend to get in theses classically trained consultancies you tend to do stuff. What you do is see what they need, sort of fill the gap and these sorts of things that are very slow processes, and design can come in and just say 'why don't we just do this?'

Interviewer: Are you comfortable with that?

Interviewee: No, I'm not... but that's is something I need to deal with...

Interviewer: xxxxxxxxx actually said that it took her time to adjust to that way of thinking

Interviewee: She's been here 1,5 years...

Interviewer: And you've been here 4 years and you still aren't comfortable...

Interviewee: Yeah... I'm still not there yet... but no...but that is something that really helps...

Interviewer: For men it was a shock when I first came into this environment ...

Interviewee: Have you sat down with the creatives and saw how they work?

Interviewer: Yeah... I'm constantly there and it's a Centre for Design Research and they are creatives they are people who are more analytical, they are engineers, design engineers, making things... but it still is scary.

Interviewee: (laughs)

Interviewer: It was massively scary, the environment from the way they dress to the way their thought processes run...

Interviewee: It's even more scary when at stake is 0,5 million pounds. You see this happening. That's why you never show your clients upstairs – What we're spending our money on – crazy – Things like not ordering your books on the shelf... Things like that...

Interviewer: It's quite interesting... It's quite hygienic this place, and I'd imagine that creative process needs more randomness. You keep it away from ...

Interviewee: Yeah, exactly...

Interviewer: Interesting... The clients are not prepared to acknowledge that a part of your business is not tidy; you kind of screen it from them...

Interviewee: I think we are quite a professional business in terms of... 'cause we do so many CEO's, and we don't want to scare them. You don't want to portray ourselves as one of these crazy, creative places because there's too much of that and there's too many crap ones essentially. So I think we present ourselves as more sort of business creatives, to be honest, and not sort of jeans and T-shirts, flipcharts everywhere, pictures or whatever. I think if clients wanted that they'd go somewhere else... We do a lot of work with the Germans and the Swiss people so that's... If you're scared, these people will have a heart attack if they see it...

Interviewer: There's one more, that you'd probably agree with – it's understanding beauty and multidimensional aesthetics... it seems not only about function, it's about the way it looks and feels... designers appreciate that.

Interviewee: Maybe here it's not so much in terms of... Whatever we do it has to work; it has to make business money. I think that's why people come here, they do take inspiration in various different ways, but outside the business world I think they don't do things 'cause it's looks good...

Interviewer: It has to go with it; it has to be both ...

Interviewee: Ok, is that ok?

Interviewer: Absolutely, thanks a lot...

Interviewee: It was a pleasure talking to you, thanks!

Appendix G – Interim Emerging Themes

Sample of emerging themes during the grounded theory process

Trailblazing, colonising (vs. consolidating)

prepositional format
solution-driven
breaking rules

Connecting with the audience and with self

commercial empathy,
concentrating on people
universal appeal vs. singular appeal
transparency (level of)
self-reflection (level of)
self-awareness

Consolidating meaning

bridging approaches
synthesis-analysis
seeing holistically
multiple 'languages'

Crating, bringing to life,

physical and virtual realm
artefacts
experiences

Embracing discontinuity

discontinuous thoughts
'jumpy' process
depth of knowledge
feeling vs. knowing
intuition
instinct

Embracing visual

visual discourse
visual thinking
creative manifesting
visualisation

Understanding beauty and multidimensional aesthetics,

Appendix H – Artistic and Scientific Approaches to Academic Research

Key differences in artistic and scientific approaches to academic research

Criteria	Art	Science
Mode of Representation	Non-literal language; evocative statements	Formal statements; literal language
Appraisal Criteria	Persuasiveness paramount; seek illumination, penetration and insight; arguments supported by success in shaping concepts	Validity paramount; unbiased methods of data collection and analysis; conclusions supported by evidence
Point of Focus	Concentrates on experiences and meanings (observed behaviour provides springboard to understanding)	Concentrates on overt or expressed behaviour (which can be recorded, counted and analysed)
Nature of Generalization	Studies single cases and the idiosyncratic, but presupposes that generalizations reside in the particular, that broad (if not statistically significant) lessons can be learnt from the unique	Extrapolates from particular to general; randomly drawn sample is deemed representative of universe and statistically significant inferences drawn about latter from former
Role of Form	Avoidance of standardization; form and content interact; meaning of content determined by form in which it is expressed	Results reported in neutral, unembellished manner (third person, past tense) and according to a standard format (problem, literature review, sample, analysis, implications)
Degree of License	Subjective orientation; imaginative self-expression both permitted and expected	Factual emphasis; little scope for personal expression or flights of imaginative fancy
Prediction and Control	Aims to explicate, thereby increasing understanding; less algorithmic than heuristic	Aims to anticipate the future accurately, thus enabling or facilitating its control
Sources of Data	The investigator is the principal research instrument and his or her experiences the major source of data	Standardized instruments, such as questionnaire surveys or observation schedules, used to collect data
Basis of Knowing	Methodological pluralism; knowledge conveyed by successful evocation of experience in question (affect and cognition combined)	Methodological monism; only formal propositions provide knowledge (affect and cognition separate)
Ultimate Aims	Creation of meaning and generation of understanding; statements seek to alter extant perceptions about the world	Discovery of truth and laws of nature; propositions taken to be true when they correspond with the reality they seek to explain

*Table Differences between scientific and artistic approaches to research
Adapted from Eisner (1985)*